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Tables of Atomic Functions

A supplement to the paper by Enrico Clementi, "*Ab Initio* Computations in Atoms and Molecules," which appears in *IBM Journal of Research and Development* **9**, 2 (1965).

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Preface

Why compute atomic Hartree-Fock functions, an approximation 30 years old, when most of comtemporary physics pays relatively minor attention to atomic physics? The simple answer is that there are several unsettled problems and gaps in our knowledge of the electronic structure of the periodic system and that the Hartree-Fock method is presently the most efficient technique available. In the present literature on atomic functions there is no systematic effort comparable to the one presented in these tables, previously reported only briefly in the literature. Indeed, in the past, Hartree-Fock functions have been computed for relatively few cases, and often without sufficient accuracy.

The functions tabulated in this work have been computed with the Roothaan-Hartree-Fock technique. This work was stimulated by the realization that a by-product of a systematic study of the Hartree-Fock total energies would be a systematic body of data on the atomic correlation energy. This has been proven to be most useful in predicting accurately the correlation energy in molecules or in several stable negative ions that are experimentally known.

The expansion method offers the interesting possibility of providing an excellent starting basis set for molecular and solid state computations. This was constantly present in the writer's mind during the preparation of the tables. It is hoped that the library of basis functions will be of use in these fields.

Irrespective of the usefulness of the atomic functions in fields other than atomic physics, they are an aid to fundamental studies of the behavior of atoms and to the duplication of that behavior by means of computations. It is a sobering thought that in these tables we have only touched the first third of the periodic table, and only with an approximation.

The completion of these tables has been made possible through the cooperation of many. I acknowledge the permission of Professor C. C. J. Roothaan and his research associates of the Laboratory of Molecular Structure and Spectra in the Department of Physics of the University of Chicago to use their most efficient program for atomic self-consistent field computations (written for IBM 704, 7090 and 7094 computers). In particular, I should like to mention Messrs. G. Malli, A. Peterson, M. Yoshimine, W. Worley and Drs. P. S. Bagus, L. M. Sachs, A. W. Weiss and Professor S. Huzinaga. In addition, it is my pleasure to include an acknowledgment to Professor R. S. Mulliken for his interest in this work. *To all these men I would like to dedicate the following tables.*

Finally, I acknowledge the cooperation of Mr. D. L. Raimondi, and the generous support and continuous interest of Drs. A. G. Anderson and J. D. Swalen of the IBM Research Division.

Introduction: The Roothaan-Hartree-Fock method

We shall introduce the Tables of Atomic Functions with a short description of the Roothaan-Hartree-Fock method. For additional discussion and reference to many papers in the field of computations of atomic functions, we refer to our paper in the *IBM Journal*.[1]

The Roothaan-Hartree-Fock method has been described by Roothaan for closed shells,[2] by Roothaan for a single open shell,[3] by Huzinaga for two open shells,[4] and by Roothaan and Bagus for many open shell systems.[5]

In what follows we shall adhere as closely as possible to the presentation and choice of symbols adopted by Roothaan. The physical model embodied in the Hartree-Fock method has been analyzed in many places and,

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therefore, we shall not repeat the analysis here. We refer instead to the expositions of Hartree[6] or Slater.[7]

We are interested in the solution of the Roothaan-Hartree-Fock equations for those states that belong to configurations with many open shells of different symmetry in addition to closed shells. The problem is that of obtaining the total energy E for a wavefunction Φ obtained in the self-consistent field framework. In computing E the Hamiltonian is

$$H = \Sigma_a\left(-\tfrac{1}{2}\nabla_a^2 - \frac{Z}{r_a}\right) + \Sigma_{a>b}\frac{1}{r_{ab}}. \tag{1}$$

The total wavefunction Φ is in general the sum of several Slater determinants,

$$\Phi = \Sigma_g L_g \phi_g, \tag{2}$$

where each ϕ_g is an antisymmetrized product of spin-orbitals (one-electron functions). Since Eq. (1) is spin independent, the spin-orbitals are simply a product of a spin function and an orbital function. The orbitals are assumed to be orthogonal to each other, thus the same holds for the spin-orbitals. The orbitals are obtained by solving the Roothaan-Hartree-Fock equations, not by attempting to find solution of the Hamiltonian (1). The expectation value for the energy is given by the usual relation

$$E = \langle\Phi|\ H\ |\Phi\rangle/\langle\Phi\ |\ \Phi\rangle. \tag{3}$$

The orbitals in each ϕ_g are characterized by an index, λ, which indicates the symmetry species (λ corresponds to the quantum number l), by an index α, which indicates the subspecies (the subspecies label the individual members of the degenerate set that transform according to the representation λ) and by an index i, which refers to the i^{th} orbital of symmetry λ. The orbital $\varphi_{i\lambda\alpha}$ is expanded in terms of basis functions according to

$$\varphi_{i\lambda\alpha} = \Sigma_p \chi_{p\lambda\alpha} C_{i\lambda p}. \tag{4}$$

The subscript p refers to the p^{th} basis function of symmetry λ. The expansion coefficient depends on i, λ and p but not on the subspecies α. The basis functions χ are Slater-type orbitals with integer quantum numbers, namely

$$\chi_{p\lambda\alpha}(r, \vartheta, \varphi) = R_{\lambda p}(r)\, Y_{\lambda\alpha}(\vartheta, \varphi), \tag{5}$$

where

$$R_{\lambda p} = [(2\eta_{\lambda p})!]^{-1/2}(2\zeta_{\lambda p})^{n\lambda p+1/2} r^{n\lambda p-1} e^{-\zeta_{\lambda p} r} \tag{6}$$

and $Y_{\lambda\alpha}(\theta, \varphi)$ are normalized spherical harmonics in complex form. It is noted that $n_{\lambda p} \geq \lambda + 1$ and that the exponent $\zeta_{\lambda p}$ is to be chosen such as to give the best energy, using a laborious process of optimization.

Having defined the basis set, we shall now give an expression for the total energy. It will turn out to be convenient to subdivide E into two components, $E^{(1)}$ for the one electron operators of H, and $E^{(2)}$ for $1/r_{ab}$:

$$E = \langle\Phi| - \Sigma_a\left(\tfrac{1}{2}\nabla_a^2 + \frac{Z}{r_a}\right)|\Phi\rangle + \langle\Phi|\ \Sigma_{a>b}\frac{1}{r_{ab}}\ |\Phi\rangle$$
$$= E^{(1)} + E^{(2)}. \tag{7}$$

We shall start by introducing the overlap matrix element $S_{\lambda pq}$ defined as

$$S_{\lambda pq} = \langle\chi_{\lambda p\alpha}\ |\ \chi_{\lambda q\alpha}\rangle. \tag{8}$$

Since the basis functions Eqs. (5) and (6) are normalized, $S_{\lambda pq} = \delta_{pq}$. The matrix elements of a given λ can be collected in a square matrix, $\mathbf{S}_\lambda$; the total collection of all the $\mathbf{S}_{\lambda pq}$ for every λ can be collected in a square matrix, $\mathbf{S}$.

Whenever we shall need to consider the matrix elements of a matrix as a one-dimensional array, we shall call such an array a *supervector*.

Let us collect the expansion coefficients $C_{i\lambda p}$ in a p component column vector $\mathbf{C}_{i\lambda}$. We shall assume that the vectors $\mathbf{C}_{i\lambda}$ form an orthonormal set in the following sense:

$$C_{i\lambda}^{\dagger} S C_{j\lambda} = \delta_{ij}. \tag{9}$$

Let us indicate with $N_{i\lambda}$ the occupation number of a shell. If needed we shall indicate as $N_{c\lambda}$ and $N_{o\lambda}$ the occupation number of a closed and open shell, respectively. We shall define as *shell*, *closed shell*, *open shell* and *total density matrices* the quantities

$$\mathbf{D}_{i\lambda} = N_{i\lambda}\mathbf{C}_{i\lambda}\mathbf{C}_{i\lambda}^{\dagger} \tag{10a}$$

$$\mathbf{D}_{c\lambda} = \Sigma_k \mathbf{D}_{k\lambda} \tag{10b}$$

$$\mathbf{D}_{o\lambda} = \Sigma_m \mathbf{D}_{m\lambda} \tag{10c}$$

$$\mathbf{D}_{T\lambda} = \mathbf{D}_{c\lambda} + \mathbf{D}_{o\lambda}, \tag{10d}$$

where $k = i \subset$ closed and $m = i \subset$ open, respectively. (It is noted that $\mathbf{C}^{\dagger}$ is a row vector and $\mathbf{C}$ is a column vector, hence $\mathbf{C}\mathbf{C}^{\dagger}$ is a matrix).

We are finally in a position to compute $E^{(1)}$. Remembering Eqs. (1), (6) and (7), let us define the nuclear potential and the kinetic energy matrix elements:

$$U_{\lambda pq} = \langle\chi_{\lambda p\alpha}|\ \frac{1}{r}\ |\chi_{\lambda q\alpha}\rangle \tag{11}$$

$$T_{\lambda pq} = -\langle\chi_{\lambda p\alpha}|\ \tfrac{1}{2}\nabla^2\ |\chi_{\lambda q\alpha}\rangle. \tag{12}$$

We can now define the matrices $\mathbf{T}_\lambda$, $\mathbf{U}_\lambda$ and $\mathbf{T}$, $\mathbf{U}$ in the same way we have defined the matrices $\mathbf{S}_\lambda$ and $\mathbf{S}$. In addition we can define the one-electron Hamiltonian $\mathbf{h}$, sometimes referred to as the bare nucleus Hamiltonian,

$$\mathbf{h} = -\Sigma_a Z\mathbf{U}_a + \mathbf{T}_a. \tag{13}$$

The one-electron Hamiltonian will give the energy $E^{(1)}$ according to

$$E^{(1)} = \langle\Phi|\,\mathbf{h}\,|\Phi\rangle = \langle\phi_g|\,h\,|\phi_g\rangle$$
$$= \Sigma_\lambda(\Sigma_k N_{\lambda k}\Sigma_{pq} H_{\lambda pq} C_{\lambda kq} C_{\lambda kp}$$
$$+ \Sigma_m N_{\lambda m}\Sigma_{pq} H_{\lambda pq} C_{\lambda mp} C_{\lambda mq}), \tag{14}$$

or in matrix notation, the *scalar* $E^{(1)}$ is given by

$$E^{(1)} = \Sigma_\lambda \mathbf{H}_\lambda^\dagger \mathbf{D}_{c\lambda} + \Sigma_\lambda \mathbf{H}_\lambda^\dagger \mathbf{D}_{o\lambda} = \mathbf{H}^\dagger \mathbf{D}_T. \tag{15}$$

It is noted that $E^{(1)}$ does not depend on the symmetry subspecies α, but only on $i\lambda$.

For the two-electron Hamiltonian the situation will clearly be different since, for this case, the matrix elements will depend on the subspecies. Therefore, one can expect a more complex situation, where the coefficients L_g will play an important role. We could consider the elements $L_g^2\,\langle\phi_g|\,1/r_{ab}\,|\phi_g\rangle$ and $L_g L_g,\,\langle\phi_g|\,1/r_{ab}\,|\phi_g,\rangle$ in order to compute $E^{(2)}$. Following Roothaan and Bagus, we shall use a different approach, where the emphasis is placed on the fact that each ϕ_g contains a doubly occupied closed-shell core φ_c and a partially occupied open shell chosen from a set φ_0. The combined set of orbitals φ can, therefore, be defined by

$$\varphi = (\varphi_c, \varphi_0). \tag{16}$$

It might be convenient to digress briefly and to comment on the special case of closed-shell configurations. The two-electron energy for a closed shell, $E_c^{(2)}$, is given by the relation

$$E_c^{(2)} = 2\Sigma_{kl}(J_{kl} - \tfrac{1}{2}K_{kl}), \tag{17}$$

where J_{kl} and K_{kl} are the usual coulombic and exchange interactions between the orbitals l and k. In order to obtain $E^{(2)}$ one has to compute matrix elements of the form

$$\Sigma_{pq}\Sigma_{rs} C_{l\lambda p} C_{l\lambda q} C_{k\mu r} C_{k\mu s}\left\{\iint \chi^{*b}_{p\lambda\alpha}\chi^{*a}_{r\mu\beta}\frac{1}{r_{ab}}\chi^{b}_{q\lambda\alpha}\chi^{a}_{s\mu\beta}\,dV^a\,dV^b\right.$$
$$\left. - \frac{1}{2}\iint \chi^{*b}_{p\lambda\alpha}\chi^{*a}_{r\mu\beta}\frac{1}{r_{ab}}\chi^{a}_{p\lambda\alpha}\chi^{b}_{s\mu\beta}\,dV^a\,dV^b\right\}. \tag{18}$$

Let us indicate by P the supermatrix with elements $P_{\lambda pq,\mu rs}$ given by the expression inside the brackets in Eq. (18). One obtains

$$E_c^{(2)} = \tfrac{2}{4}\Sigma_{k\lambda}\Sigma_{l\mu}(\mathbf{D}_{k\lambda})_{pq}(\mathbf{D}_{l\mu})_{rs}(P_{\lambda,\mu})_{pq,rs} \tag{19a}$$

or

$$E_c^{(2)} = \tfrac{1}{2}\mathbf{D}_c^\dagger P \mathbf{D}_c. \tag{19b}$$

We shall not comment further on the closed-shell problem.

Let us turn now to the computation of $E^{(2)}$ for the case of open shells. From what we have shown for the closed-shell case, and keeping in mind the definition of Φ (Eq. (2)) and φ (Eq. (16)), one would expect that, for open-shell configuration, the energy $E^{(2)}$ could be partitioned into closed-shell, open-shell and closed-open-shell interactions. The latter can be constructed in a way completely similar to the previous one as long as an additional term is included which has the function of subtracting those interactions that were fictitiously added in the P term (as we would do if we were to compute closed-shell interactions). We shall call this subtractive term a "Q-type" term, for reasons which will appear clearer in the following discussion.

We are finally in a position to state explicitly an expression for the energy $E^{(2)}$. We shall make use of two supermatrices, one the P supermatrix, as for the case of the closed-shell configurations, and a Q supermatrix for the open-shell-open-shell interactions. These are defined as below:

$$P_{\lambda pq,\mu rs} = \mathcal{J}^0_{\lambda pq,\mu rs} - \tfrac{1}{2}\sum_{\nu=|\lambda-\mu|}^{|\lambda+\mu|} A_{\lambda\mu\nu}\mathcal{K}^\nu_{\lambda pq,\mu rs} \tag{20}$$

$$Q_{\lambda pq,\mu rs} = \sum_{\nu=0}^{2(\lambda,\mu)} J_{\lambda\mu\nu}\mathcal{J}^\nu_{\lambda pq,\mu rs} - \tfrac{1}{2}\sum_{\nu=|\lambda-\mu|}^{|\lambda+\mu|} K_{\lambda\mu\nu}\mathcal{K}^\nu_{\lambda pq,\mu rs}, \tag{21}$$

where $J_{\lambda\mu\nu}$ and $K_{\lambda\mu\nu}$ are the vector coupling coefficients which vary from state to state and configuration to configuration and are the standard coulomb and exchange integrals. Clearly, for closed shells $J_{\lambda\mu\nu}$ and $K_{\lambda\mu\nu}$ are zero. The expression for the energy $E^{(2)}$ is in supervector and supermatrices notation

$$E^{(2)} = \tfrac{1}{2}\mathbf{D}_T^\dagger P \mathbf{D}_T - \tfrac{1}{2}\mathbf{D}_o^\dagger Q \mathbf{D}_o. \tag{22}$$

The whole preceding section can be summarized with the following statement: *Given a wavefunction of appropriate symmetry and spin properties of determinant form, its energy is expressed by Eq. (22).* We shall now explain how one obtains such functions, as defined above, in the Roothaan-Hartree-Fock method.

The self-consistent field technique

In order to obtain a Hartree-Fock function in the expansion method, one makes use of the variational method for the density matrices and of "good sense" in the choice of the basis set. Unfortunately "good sense" does not go too far and a process of trial and error in the choice of the basis set is needed; this process is generally referred to as *optimization of the orbital exponent* and, nowadays is carried out by the computer, instructed in a way that compromises between efficiency for a specific case and complete generality of the program.

We now ask for the best function that can be obtained for a given basis set, i.e., for that function which minimizes the energy expression, Eq. (45). Let us subject every orbital φ_i by an infinitesimal $\delta\varphi_i$; since the basis set

is fixed, this is tantamount to an infinitesimal variation on the expansion coefficients $C_{\lambda i}$. The orbital φ_i always has to conform to the orthogonality condition. Therefore the variation $\delta C_{i\lambda p}$ is restricted by those conditions which are obtained by subjecting Eq. (9) to an infinitesimal variation. Let us sum the constraints for all possible orbitals (Σ_{ij}) and for all the possible symmetries (Σ_λ), and let us multiply the resulting expression by $\Theta_{\lambda ji}$ and $\Theta_{\lambda ij}$, the Lagrangian multipliers; we then obtain

$$2\Sigma_{\lambda ijpq}|\delta C_{\lambda pi}|S_{\lambda pq}C_{\lambda qj}\Theta_{\lambda ji}.$$

The standard mathematical technique is to add to the δE, the constraints which must be satisfied multiplied by the Lagrangian multipliers. Let us call $\delta E'$ the result of this addition. The problem is now that of finding the condition for $\delta E' = 0$ for any choice of the δC, without restriction, and at the same time of giving suitable values to the Lagrangian multipliers.

We shall have Lagrangian multipliers between orbitals of closed shells, between orbitals of the open shells, and between orbitals of closed and open shells. The latter type of multiplier will be eliminated by introducing new operators R_c and R_o for closed and open shells. The introduction of R_c and R_o in order to eliminate the $\Theta_{\lambda km}$ is convenient because the R operators, called *coupling operators*, are expressed in terms of previously defined quantities such as P and Q. The operators R_c and R_o for closed and open shells are of the form

$$R_{c,\lambda pq} = [N_{c\lambda}/(N_{c\lambda} - N_{0\lambda})]\Sigma_l[\Sigma_{uw}S_{\lambda pu}C_{l\lambda u}Q_{\lambda wq}C_{l\lambda w} + \Sigma_{uw}Q_{\lambda pu}C_{l\lambda u}S_{\lambda wq}C_{l\lambda w}] \quad (23a)$$

$$R_{o,\lambda pq} = [N_{0\lambda}/(N_{c\lambda} - N_{0\lambda})]\Sigma_l[\Sigma_{uw}S_{\lambda pu}C_{n\lambda u}Q_{\lambda wq}C_{n\lambda w} + \Sigma_{uw}Q_{\lambda pu}C_{n\lambda u}S_{\lambda wq}C_{n\lambda w}], \quad (23b)$$

which are, by definition, Hermitian. In addition, let us designate by F_c and F_o the quantities $F_{c,\lambda pq} = H_{\lambda pq} + P_{\lambda pq} + R_{o,\lambda pq}$ and $F_{o,\lambda pq} = H_{\lambda pq} + P_{\lambda pq} - Q_{\lambda pq} + R_{c,\lambda pq}$.

We can now write the basic equations of our problem in the form

$$F_{c,\lambda pq}C_{k\lambda q} = \Sigma_{lq}S_{\lambda pq}C_{\lambda ql}\Theta_{\lambda lk} \quad (24a)$$

and

$$F_{o,\lambda pq}C_{m\lambda q} = \Sigma_{mq}S_{\lambda pq}C_{\lambda qn}\Theta_{\lambda mn}. \quad (24b)$$

By making use of a unitary transformation on the closed and open shells separately, we can bring the Θ matrices into diagonal form. By designating as $\varepsilon_{m\lambda}$, the diagonal elements of the transformed Θ matrices, we can finally write

$$\Sigma_q F_{c,\lambda pq}C_{k\lambda q} = \varepsilon_{k\lambda}\Sigma_q S_{\lambda pq}C_{k\lambda q} \quad (25)$$

$$\Sigma_q F_{o,\lambda pq}C_{m\lambda q} = \varepsilon_{m\lambda}\Sigma_q S_{\lambda pq}C_{m\lambda q}, \quad (26)$$

or, in a more compact notation, we have

$$\mathbf{F}_c\mathbf{C} = \boldsymbol{\varepsilon}\mathbf{S}\mathbf{C}$$

$$\mathbf{F}_o\mathbf{C} = \boldsymbol{\varepsilon}\mathbf{S}\mathbf{C}.$$

These are the Hartree-Fock equations for closed and open shells. They are pseudo-eigenvalue equations, because the matrices $\mathbf{F}_c$ and $\mathbf{F}_o$ depend on the solution $\mathbf{C}$. Self-consistency is achieved when the same vectors, from which these matrices are constructed according to Eqs. (24), are solutions of Eqs. (25) and (26). We refer to the work of Roothaan and Bagus for details on the best technique in order to obtain self-consistency in a computer program. It is noted that in this work the R operators are introduced somewhat ad hoc. For a detailed analysis on the use of the R operators in connection with the problem of the elimination of off-diagonal Lagrangian multipliers, we refer to a recent work of S. Huzinaga.[8]

Explanation of the tables

In the tables we have collected several hundred functions obtained with the method previously described, and using a program which has been supplied to us by Professor C. C. J. Roothaan. This program has been somewhat modified so as to be more useful for mass production of functions. The various tables are always identified by two numbers; the first number refers to the table number, the second is a running number starting from 1, which is used if a table takes more than one page. The tables are direct photoreproductions of the machine output. The first table gives the ground state of the first 36 elements of the periodic systems, plus the excited states of the ground state electronic configuration for the elements C to Ca, and Zn to Kr. The second table gives the ground state and the excited state functions for the negative ions from Li^- to Br^-. Following Table 1 (Table 1-1 through Table 1-15) and Table 2 (Table 2-1 through Table 2-13) we have reported the tables of the positive-ion isoelectronic series (Tables 3-44) and a table of simple functions, which are not as accurate as the Hartree-Fock functions, but could be of use in molecular computations. These functions are for the ground state of the neutral atoms from He to Ar (Tables 45-1 to 45-4). For the positive-ion isoelectronic series, the basis set is of different type and size than the one used for the neutral atom. For several cases, the isoelectronic series is preceded by the neutral atom function, when a different function other than the one reported in Tables 1-1 to 1-15 was available.

Since the format of the tables is always the same, we shall discuss a specific example in detail. The beginning of each computation is marked by an asterisk. In a given page of any table there are from a minimum of one function to a maximum of 20 functions (the choice being a compromise between esthetics and space saving). As an example, we shall analyze the last function in Table 1-15,

the case of the Kr atom. The first line identifies the problem, namely KRYPTON, with $K(2)L(8)M(18)4s(2)4p(6)$ electrons in the ^1S state. For the next row we give the Total Energy (T.E.), the Potential Energy (P.E.), the Kinetic Energy (K.E.) and the ratio P.E./T.E. This ratio is indicated as V.T. since it provides a test of the fulfillment of the Virial Theorem from the function in question. *The energies are always given in atomic units.* In our case T.E. = 2752.0543 a.u., P.E. = 5504.1073 a.u., K.E. = 2752.0529 a.u. and the ratio P.E./T.E. = −2.0000003. The theoretically exact value for P.E./T.E. is −2. Next follows the basis sets, the expansion coefficients, and the orbital energies (in atomic units) arranged in a column format. The basis set of s symmetry ($\lambda = 0$) is given in the first column and consists of ten functions of the type described by Eq. (3). The notation $1s$, $1s$, $2s$, $2s$, $3s$, $3s$, $3s$, $4s$, $4s$, $4s$ gives the value of n in the basis function. This is needed in order to compute the exponent of r which is given by $(n - 1)$. To the right there is the orbital exponent ζ, i.e., the factor by which r is to be multiplied in order to have $e^{-\zeta r}$. As noted, the radial factors of the basis functions are the form $Nr^{n-1}e^{-\zeta r}$, hence the information given fully defines the basis set of s symmetry. Let us call the normalized basis function $\chi_{\lambda p}$, where $\lambda = 0$ (s symmetry) and p runs from 1 to 10. The following four columns from the left to the right of the first column give the expansion coefficient of the s basis set for the $1s$, $2s$, $3s$, $4s$ Hartree-Fock orbitals. *The top entry of each column of expansion coefficients is the orbital energy in a.u.* Therefore,

$$\begin{aligned}
\varphi_{01} = \varphi_{1s} = {} & 0.73837\chi_{01} + 0.25206\chi_{02} \\
& + 0.02023\chi_{03} - 0.00881\chi_{04} \\
& + 0.00593\chi_{05} - 0.00379\chi_{06} \\
& + 0.00191\chi_{07} - 0.00064\chi_{08} \\
& + 0.00044\chi_{09} - 0.00015\chi_{0,10} \\
\varphi_{02} = \varphi_{2s} = {} & -0.41690\chi_{01} + 0.06490\chi_{02} \\
& - 0.12848\chi_{03} + 1.08043\chi_{04} \\
& + 0.18819\chi_{05} + 0.00226\chi_{06} \\
& + 0.00214\chi_{07} - 0.00052\chi_{08} \\
& + 0.00028\chi_{09} - 0.00010\chi_{0,10} \text{ etc., and}
\end{aligned}$$

$$\epsilon_{1s} = -520.16444 \text{ a.u.}$$

$$\epsilon_{2s} = -69.90297 \text{ a.u.}$$

$$\epsilon_{3s} = -10.84936 \text{ a.u.}$$

$$\epsilon_{4s} = -1.15286 \text{ a.u.}$$

The column for the basis sets of p-symmetry and the columns of the corresponding Hartree-Fock orbital energies and expansion coefficients follow in exactly the same fashion. For the Kr case in question, there are nine basis functions: two of these are of $2p$ type, i.e., of the form $N_i r^{n_i-1} e^{-\zeta_i r} Y_{lm} = N_i r^1 e^{-\zeta_i r} Y_{1m}$, three of these are of $3p$ type, i.e., of the form $N_i r^{3-1} e^{-\zeta_i r} Y_{1m} = N_i r^2 e^{-\zeta_i r} Y_{1m}$, and four are of $4p$ type, i.e., $N_i r^{4-1} e^{-\zeta_i r} Y_{1m} = N_i r^3 e^{-\zeta_i r} Y_{1m}$. The nine orbital exponents ζ are given to the immediate right of the type designation of the basis set. Note that the basis functions have no subspecies specification. As explained in the preceding introduction, the expansion coefficients are independent of the subspecies. Therefore, one will find not three columns of expansion coefficients for the three p-type Hartree-Fock orbitals (doubly filled), but only one. The same structure is repeated for the $3d$ basis set, orbital energy and expansion coefficients.

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20–1 to 20–5	$K(2)\ L(8)\ 3s^2\ 3p^1$ (^2P) " " " " "
21–1 to 21–5	$K(2)\ L(8)\ 3s^2\ 3p^2$ (^3P) " " " " "
22–1 to 22–5	$K(2)\ L(8)\ 3s^2\ 3p^2$ (^1D) " " " " "
23–1 to 23–5	$K(2)\ L(8)\ 3s^2\ 3p^2$ (^1S) " " " " "
24–1 to 24–5	$K(2)\ L(8)\ 3s^2\ 3p^3$ (^4S) " " " " "
25–1 to 25–5	$K(2)\ L(8)\ 3s^2\ 3p^3$ (^2D) " " " " "
26–1 to 26–5	$K(2)\ L(8)\ 3s^2\ 3p^3$ (^2P) " " " " "
27–1 to 27–5	$K(2)\ L(8)\ 3s^2\ 3p^4$ (^3P) " " " " "
28–1 to 28–5	$K(2)\ L(8)\ 3s^2\ 3p^4$ (^1D) " " " " "
29–1 to 29–5	$K(2)\ L(8)\ 3s^2\ 3p^4$ (^1S) " " " " "
30–1 to 30–4	$K(2)\ L(8)\ 3s^2\ 3p^5$ (^2P) " " " " "
31–1 to 31–4	$K(2)\ L(8)\ 3s^2\ 3p^6$ (^2S) " " " " "
32–1 to 32–3	$K(2)\ L(8)\ M(8)\ 4s^1$ (^2S) " " without " "
33–1 to 33–2	$K(2)\ L(8)\ M(8)\ 3d^2$ (^3F) " " " " "
34–1 to 34–2	$K(2)\ L(8)\ M(8)\ 3d^3$ (^4F) " " " " "
35–1 to 35–2	$K(2)\ L(8)\ M(8)\ 3d^4$ (^5D) " " " " "
36–1 to 36–2	$K(2)\ L(8)\ M(8)\ 3d^5$ (^6S) " " " " "
37–1 to 37–2	$K(2)\ L(8)\ M(8)\ 3d^6$ (^5D) " " " " "
38–1	$K(2)\ L(8)\ M(8)\ 3d^7$ (^4F) " " " " "
39–1	$K(2)\ L(8)\ M(8)\ 3d^8$ (^3F) " " " " "
40–1	$K(2)\ L(8)\ M(8)\ 3d^9$ (^2D) " " " " "
41–1	$K(2)\ L(8)\ M(8)\ 3d^{10}$ (^1S) " " " " "
42–1	$K(2)\ L(8)\ M(8)\ 4s^1$ (^2S) " " " " "
43–1 to 43–3	First positive ion for Gd, Ge, As, Se, Br and K
44–1 to 44–2	Ground state for first positive ion of the configrurations $K(2)\ L(8)\ 3s^2\ 3p^6\ 4s^2\ 3d^n$
45–1 to 45–4	Double zetas from He to Ar for molecular calculations

TABLE 01- 01

*HELIUM 1S(2), 1S
T.E.=-0.28616799E 01
P.E.=-0.57233531E 01
K.E.= 0.28616732E 01
V.T.=-0.20000023E 01

	S	1S
BASIS/ORB E		-0.91796
1S	1.43000	0.78503
1S	2.44150	0.20284
1S	4.09960	0.03693
1S	6.48430	-0.00293
1S	0.79780	0.00325

TABLE 01- 02

*LITHIUM 1S(2)2S(1) 2S
T.E.=-0.74327257E 01 P.E.=-0.14865459E 02
K.E.= 0.74327334E 01 V.T.=-0.19999988E 01

S		1S	2S
BASIS/ORB	E	-2.47775	-0.19632
1S	2.48030	0.89778	-0.14426
1S	4.70710	0.11031	-0.01584
2S	0.35000	-0.00006	0.00202
2S	0.66000	0.00109	0.97901
2S	1.00000	-0.00144	0.09077
2S	1.73500	0.00937	-0.08964

*BERYLLIUM 1S(2)2S(2), 1S
T.E.=-0.14573020E 02 P.E.=-0.29146017E 02
K.E.= 0.14572997E 02 V.T.=-0.20000015E 01

S		1S	2S
BASIS/ORB	E	-4.73267	-0.30927
1S	3.47030	0.91792	0.17065
1S	6.36810	0.08742	0.01469
2S	0.75160	0.00147	-0.11551
2S	0.90840	-0.00267	-0.67835
2S	1.42360	0.00222	-0.30265
2S	2.76160	0.00597	0.09232

*BORON 1S(2)2S(2)2P(1), 2P
T.E.=-0.24529052E 02 P.E.=-0.49058426E 02
K.E.= 0.24529374E 02 V.T.=-0.19999868E 01

S		1S	2S	P		2P
BASIS/ORB E		-7.69528	-0.49468	BASIS/ORB E		-0.30987
1S	4.46610	0.92109	-0.19401	2P	0.87830	0.54005
1S	7.85000	0.07847	-0.01243	2P	1.35430	0.38245
2S	0.83200	-0.00036	0.01800	2P	2.22960	0.13208
2S	1.15650	0.00085	0.71580	2P	5.36650	0.00957
2S	1.91197	0.00002	0.38903			
2S	3.52130	0.01146	-0.11030			

*CARBON 1S(2)2S(2)2P(2), 1D
T.E.=-0.37631317E 02 P.E.=-0.75263150E 02
K.E.= 0.37631834E 02 V.T.=-0.19999862E 01

S		1S	2S	P		2P
BASIS/ORB E		-11.35144	-0.71867	BASIS/ORB E		-0.38134
1S	5.43000	0.91965	-0.20727	2P	0.93720	0.31917
1S	9.15000	0.07951	-0.01235	2P	1.41470	0.50063
2S	1.22550	-0.00090	0.23681	2P	2.55450	0.25045
2S	1.61420	0.00220	0.61238	2P	6.30210	0.01097
2S	2.69900	-0.00043	0.31624			
2S	4.21310	0.01067	-0.14709			

*NITROGEN 1S(2)2S(2)2P(3), 4S
T.E.=-0.54400911E 02 P.E.=-0.10880248E 03
K.E.= 0.54401562E 02 V.T.=-0.19999880E 01

S		1S	2S	P		2P
BASIS/ORB E		-15.62892	-0.94523	BASIS/ORB E		-0.56753
1S	6.45950	0.92787	-0.21744	2P	1.19370	0.29731
1S	10.83890	0.06535	-0.00843	2P	1.71240	0.48388
2S	1.46990	-0.00067	0.27744	2P	3.01120	0.28079
2S	1.91613	0.00188	0.54808	2P	7.10180	0.01352
2S	3.15600	0.00017	0.33901			
2S	5.03380	0.01665	-0.14212			

*CARBON 1S(2)2S(2)2P(2), 3P
T.E.=-0.37688611E 02 P.E.=-0.75377155E 02
K.E.= 0.37688544E 02 V.T.=-0.20000017E 01

S		1S	2S	P		2P
BASIS/ORB E		-11.32552	-0.70563	BASIS/ORB E		-0.43334
1S	5.41250	0.92695	-0.20786	2P	0.95540	0.24756
1S	9.28630	0.07665	-0.01175	2P	1.42090	0.57774
2S	1.03110	0.00073	0.06494	2P	2.58730	0.23563
2S	1.50200	-0.00167	0.74109	2P	6.34380	0.01090
2S	2.58975	0.00539	0.34626			
2S	4.25950	0.00210	-0.13208			

*CARBON 1S(2)2S(2)2P(2), 1S
T.E.=-0.37549535E 02 P.E.=-0.75100048E 02
K.E.= 0.37550513E 02 V.T.=-0.19999740E 01

S		1S	2S	P		2P
BASIS/ORB E		-11.39111	-0.73936	BASIS/ORB E		-0.30984
1S	5.38420	0.91962	-0.20999	2P	1.10600	0.68350
1S	9.06000	0.08620	-0.01333	2P	0.50740	0.05446
2S	1.21000	0.00068	0.19885	2P	2.35900	0.35041
2S	1.59290	-0.00137	0.61835	2P	6.20000	0.01237
2S	2.59640	0.00466	0.33657			
2S	4.25000	-0.00019	-0.13361			

*NITROGEN 1S(2)2S(2)2P(3), 2D
T.E.=-0.54296152E 02 P.E.=-0.10859273E 03
K.E.= 0.54296578E 02 V.T.=-0.19999921E 01

S		1S	2S	P		2P
BASIS/ORB E		-15.66635	-0.96364	BASIS/ORB E		-0.50864
1S	6.47300	0.93112	-0.21838	2P	1.09060	0.25796
1S	10.97000	0.06148	-0.00809	2P	1.64460	0.52425
2S	1.27450	-0.00033	0.08811	2P	3.02000	0.28935
2S	1.80340	0.00122	0.70830	2P	7.16500	0.01260
2S	3.11590	0.00048	0.36978			
2S	5.03380	0.01732	-0.14451			

TABLE 01- 04

*NITROGEN 1S(2)2S(2)2P(3), 2P
T.E.=-0.54228087E 02 P.E.=-0.10845659E 03
K.E.= 0.54228504E 02 V.T.=-0.19999923E 01

S		1S	2S	P		2P
BASIS/ORB	E	-15.69151	-0.97627	BASIS/ORB	E	-0.47125
1S	6.50350	0.93232	-0.21658	2P	1.05800	0.27164
1S	11.13180	0.05675	-0.00841	2P	1.62790	0.51301
2S	1.27210	-0.00020	0.08958	2P	3.02430	0.29307
2S	1.80380	0.00091	0.68905	2P	7.20290	0.01208
2S	3.01200	0.00095	0.36685			
2S	5.23380	0.02105	-0.12646			

*OXYGEN 1S(2)2S(2)2P(4), 1D
T.E.=-0.74729213E 02 P.E.=-0.14945886E 03
K.E.= 0.74729642E 02 V.T.=-0.19999941E 01

S		1S	2S	P		2P
BASIS/ORB	E	-20.69318	-1.25646	BASIS/ORB	E	-0.60066
1S	7.61050	0.93800	-0.22033	2P	1.06260	0.13324
1S	13.26810	0.03909	-0.00588	2P	1.74050	0.60066
2S	1.75820	-0.00097	0.41542	2P	3.41980	0.34397
2S	2.56300	0.00440	0.54890	2P	7.88900	0.01500
2S	4.27540	-0.00820	0.23101			
2S	5.94450	0.04100	-0.17837			

*FLUORINE 1S(2)2S(2)2P(5), 2P
T.E.=-0.99409284E 02 P.E.=-0.19881786E 03
K.E.= 0.99408572E 02 V.T.=-0.20000070E 01

S		1S	2S	P		2P
BASIS/ORB	E	-26.38294	-1.57255	BASIS/ORB	E	-0.73001
1S	8.51260	0.94205	-0.22924	2P	1.26550	0.17003
1S	14.41300	0.04499	-0.00534	2P	2.03010	0.55982
2S	1.85990	-0.00010	0.27178	2P	3.91060	0.34875
2S	2.70560	0.00153	0.65367	2P	8.63630	0.01691
2S	4.90190	-0.00076	0.33031			
2S	6.44400	0.02389	-0.23130			

*OXYGEN 1S(2)2S(2)2P(4), 3P
T.E.=-0.74809359E 02 P.E.=-0.14961918E 03
K.E.= 0.74809814E 02 V.T.=-0.19999938E 01

S		1S	2S	P		2P
BASIS/ORB	E	-20.66864	-1.24428	BASIS/ORB	E	-0.63186
1S	7.61600	0.93835	-0.21979	2P	1.15360	0.16371
1S	13.32430	0.03825	-0.00573	2P	1.79600	0.57600
2S	1.75820	-0.00097	0.42123	2P	3.43790	0.33392
2S	2.56270	0.00439	0.54368	2P	7.90700	0.01495
2S	4.28320	-0.00829	0.23061			
2S	5.94450	0.04171	-0.17856			

*OXYGEN 1S(2)2S(2)2P(4), 1S
T.E.=-0.74610955E 02 P.E.=-0.14922157E 03
K.E.= 0.74610615E 02 V.T.=-0.20000046E 01

S		1S	2S	P		2P
BASIS/ORB	E	-20.73039	-1.27512	BASIS/ORB	E	-0.55549
1S	7.53330	0.93397	-0.22210	2P	1.05550	0.15046
1S	12.70150	0.05014	-0.00738	2P	1.69850	0.56887
2S	1.70980	-0.00071	0.33802	2P	3.35170	0.36196
2S	2.45120	0.00313	0.58983	2P	7.66900	0.01715
2S	4.07610	-0.00316	0.25681			
2S	5.94450	0.02883	-0.16495			

*NEON 1S(2)2S(2)2P(6), 1S
T.E.=-0.12854701E 03 P.E.=-0.25709338E 03
K.E.= 0.12854636E 03 V.T.=-0.20000049E 01

S		1S	2S	P		2P
BASIS/ORB	E	-32.77276	-1.93048	BASIS/ORB	E	-0.85048
1S	9.57350	0.93093	-0.23171	2P	1.47000	0.22430
1S	15.44960	0.04610	-0.00442	2P	2.37170	0.51826
2S	1.95500	-0.00085	0.18201	2P	4.45450	0.33902
2S	2.84620	0.00321	0.66106	2P	9.45500	0.01765
2S	4.77460	-0.00180	0.32372			
2S	7.71310	0.03537	-0.14244			

*SODIUM K(2)L(8)3S(1), 2S
T.E.=-0.16185889E 03 P.E.=-0.32370665E 03
K.E.= 0.16184776E 03 V.T.=-0.20000686E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-40.47849	-2.79702	-0.18211	BASIS/ORB E	-1.51813
1S 11.00000	0.96305	-0.23508	0.03532	2P 5.50000	0.47360
3S 12.36850	0.04219	-0.00373	0.00087	4P 8.39370	0.03555
3S 8.02540	0.01590	0.13129	-0.02237	4P 5.42060	0.27825
3S 5.70590	-0.00281	0.40213	-0.06277	4P 3.56460	0.32310
3S 3.63100	0.00159	0.52699	-0.09421	4P 2.28330	0.07308
3S 2.15370	-0.00033	0.04726	0.00254		
3S 1.10810	0.00012	-0.00585	0.41486		
3S 0.70830	-0.00005	0.00217	0.63607		

*MAGNESIUM K(2)L(8)3S(2), 1S
T.E.=-0.19961458E 03 P.E.=-0.39921996E 03
K.E.= 0.19960538E 03 V.T.=-0.20000460E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-49.03165	-3.76768	-0.25304	BASIS/ORB E	-2.28219
1S 12.00000	0.96539	-0.24382	0.04695	2P 6.00000	0.51090
3S 13.55520	0.03767	-0.00504	0.00166	4P 7.98840	0.08276
3S 9.24890	0.01583	0.10176	-0.02391	4P 5.31970	0.32223
3S 6.55170	-0.00121	0.39908	-0.07764	4P 3.71680	0.21178
3S 4.20080	0.00104	0.55719	-0.13548	4P 2.53540	0.03591
3S 2.47020	-0.00014	0.04715	-0.00710		
3S 1.43310	0.00005	-0.00783	0.50699		
3S 0.87830	-0.00001	0.00197	0.57016		

*ALUMINUM K(2)L(8)3S(2)3P(1), 2P
T.E.=-0.24187665E 03 P.E.=-0.48373631E 03 K.E.= 0.24185966E 03 V.T.=-0.20000701E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.50128	-4.91094	-0.39348	BASIS/ORB E	-3.21858	-0.21017
1S 13.00000	0.96741	-0.25134	0.05804	2P 6.50000	0.54093	-0.09683
3S 14.71120	0.03493	-0.00465	0.00047	4P 10.18870	0.02708	-0.00969
3S 9.90000	0.01691	0.12045	-0.02622	4P 7.85270	0.04439	0.00955
3S 7.10880	-0.00304	0.37640	-0.10400	4P 5.98260	0.31758	-0.07857
3S 4.74670	0.00178	0.55298	-0.13670	4P 4.04170	0.21192	0.02128
3S 2.87680	-0.00048	0.05379	-0.10971	4P 1.95590	0.00770	0.39563
3S 1.90290	0.00020	-0.01021	0.57002	4P 1.19180	-0.00224	0.44743
3S 1.11400	-0.00004	0.00178	0.59412	4P 0.86300	0.00101	0.25549

*SILICON K(2)L(8)3S(2)3P(2), 3P
T.E.=-0.28885426E 03 P.E.=-0.57768774E 03 K.E.= 0.28883347E 03 V.T.=-0.20000719E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.81244	-6.15659	-0.53991	BASIS/ORB E	-4.25611	-0.29709
1S 14.00000	0.96915	-0.25787	0.06602	2P 7.00000	0.56838	-0.12080
3S 15.98210	0.03158	-0.00307	0.00170	4P 15.84610	0.00029	-0.00151
3S 10.59690	0.01978	0.12419	-0.04004	4P 10.51460	0.03714	-0.00300
3S 7.77150	-0.00598	0.36525	-0.08885	4P 6.83460	0.29272	-0.07161
3S 5.23940	0.00285	0.57002	-0.20265	4P 4.72810	0.22915	0.01063
3S 2.90000	-0.00111	0.04380	-0.04761	4P 2.30100	0.01001	0.48091
3S 2.08920	0.00066	-0.01453	0.61435	4P 1.30130	-0.00246	0.57523
3S 1.29450	-0.00014	0.00251	0.52025	4P 0.77340	0.00094	0.04276

*SILICON K(2)L(8)3S(2)3P(2), 1D
T.E.=-0.28881500E 03 P.E.=-0.57762057E 03 K.E.= 0.28880557E 03 V.T.=-0.20000325E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.82640	-6.16963	-0.54755	BASIS/ORB E	-4.26898	-0.26088
1S 14.00000	0.96925	-0.25789	0.06627	2P 7.00000	0.56780	-0.11877
3S 15.62000	0.03416	-0.00497	0.00254	4P 15.88000	0.00227	-0.00263
3S 11.27010	0.01115	0.08217	-0.02796	4P 10.17290	0.03140	0.00264
3S 8.07220	0.00254	0.38530	-0.09748	4P 7.12600	0.24927	-0.07266
3S 5.29270	-0.00070	0.58604	-0.20214	4P 4.91470	0.27516	0.00935
3S 3.22460	0.00066	0.04423	-0.04346	4P 2.26350	0.01242	0.50661
3S 2.08360	-0.00035	-0.00599	0.61088	4P 1.22480	-0.00262	0.57542
3S 1.29450	0.00009	0.00128	0.51358	4P 0.60000	0.00089	0.02960

*SILICON K(2)L(8)3S(2)3P(2), 1S
T.E.=-0.28875845E 03 P.E.=-0.57751984E 03 K.E.= 0.28876139E 03 V.T.=-0.19999897E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.84631	-6.18811	-0.55838	BASIS/ORB E	-4.28724	-0.20971
1S 14.00000	0.96931	-0.25803	0.06666	2P 7.00000	0.56804	-0.11611
3S 15.32000	0.03788	0.00064	0.00080	4P 14.88260	-0.02565	-0.02682
3S 11.00000	0.00509	0.05706	-0.02084	4P 14.38260	0.03607	0.02711
3S 8.31130	0.00547	0.39136	-0.10163	4P 7.47660	0.24775	-0.06303
3S 5.25920	-0.00159	0.61460	-0.20792	4P 4.96970	0.30013	-0.00200
3S 2.89920	0.00140	0.02922	-0.08812	4P 2.25570	0.01131	0.52162
3S 2.13690	-0.00095	-0.00502	0.65201	4P 1.13650	-0.00102	0.59726
3S 1.29860	0.00019	0.00022	0.52021			

*PHOSPHORUS K(2)L(8)3S(2)3P(3), 4S
T.E.=-0.34071866E 03 P.E.=-0.68141980E 03 K.E.= 0.34070115E 03 V.T.=-0.20000514E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.96982	-7.51119	-0.69645	BASIS/ORB E	-5.40105	-0.39170
1S 15.00000	0.97078	-0.26352	0.07237	2P 7.50000	0.59203	-0.14005
3S 16.87830	0.03134	-0.00263	0.00159	4P 13.61610	0.00604	-0.00919
3S 11.49030	0.01537	0.11770	-0.04029	4P 11.58550	0.01785	0.01034
3S 8.44710	-0.00258	0.37038	-0.09852	4P 7.60930	0.27344	-0.08137
3S 5.7587C	0.00132	0.56540	-0.21687	4P 5.27430	0.23003	0.01784
3S 3.60000	-0.00028	0.03814	-0.05656	4P 2.62700	0.00737	0.51852
3S 2.41210	0.00007	-0.00323	0.61698	4P 1.49630	-0.00109	0.55077
3S 1.49000	-0.00002	0.00076	0.52952	4P 0.75830	0.00028	0.02426

*PHOSPHORUS K(2)L(8)3S(2)3P(3), 2D
T.E.=-0.34064872E 03 P.E.=-0.68127916E 03 K.E.= 0.34063043E 03 V.T.=-0.20000535E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.98931	-7.52901	-0.70649	BASIS/ORB E	-5.41870	-0.35060
1S 15.00000	0.97077	-0.26356	0.07263	2P 7.50000	0.59210	-0.13893
3S 17.01970	0.02967	-0.00231	0.00171	4P 13.74000	0.00270	-0.01316
3S 11.93780	0.01636	0.07843	-0.02913	4P 12.08990	0.01838	0.01581
3S 8.83040	-0.00168	0.37298	-0.10004	4P 7.72240	0.25808	-0.08201
3S 5.82370	0.00105	0.60216	-0.22688	4P 5.36820	0.24656	0.01842
3S 3.50000	-0.00021	0.03918	-0.06640	4P 2.61270	0.00972	0.52665
3S 2.41370	0.00006	-0.00481	0.63598	4P 1.45150	-0.00151	0.54384
3S 1.48670	-0.00002	0.00087	0.51955	4P 0.78650	0.00064	0.03176

*PHOSPHORUS K(2)L(8)3S(2)3P(3), 2P
T.E.=-0.34060316E 03 P.E.=-0.68119344E 03 K.E.= 0.34059028E 03 V.T.=-0.20000377E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-80.00236	-7.54101	-0.71338	BASIS/ORB E	-5.43056	-0.32431
1S 15.00000	0.97082	-0.26353	0.07278	2P 7.50000	0.59214	-0.13839
3S 16.71100	0.03249	-0.00503	0.00279	4P 12.49040	0.01449	-0.01705
3S 11.85210	0.01142	0.10602	-0.03829	4P 10.58230	0.01825	0.02484
3S 8.47410	0.00150	0.38747	-0.10105	4P 7.42970	0.28486	-0.10237
3S 5.75870	-0.00057	0.56083	-0.22428	4P 5.18710	0.21026	0.04517
3S 3.61230	0.00057	0.04020	-0.03262	4P 2.55120	0.00705	0.54177
3S 2.34720	-0.00031	-0.00416	0.64462	4P 1.39640	-0.00028	0.53030
3S 1.46830	0.00007	0.00112	0.48298	4P 0.69280	0.00031	0.02724

*SULFUR K(2)L(8)3S(2)3P(3), 3P
T.E.=-0.39750475E 03 P.E.=-0.79499052E 03 K.E.= 0.39748578E 03 V.T.=-0.20000476E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.00461	-9.00446	-0.87963	BASIS/ORB E	-6.68268	-0.43739
1S 16.00000	0.97218	-0.26848	0.07790	2P 8.00000	0.61338	-0.15546
3S 18.12080	0.02807	-0.00207	0.00204	4P 14.12590	0.00712	-0.00995
3S 12.81680	0.01574	0.07475	-0.03170	4P 11.57180	0.02562	0.01287
3S 9.62700	-0.00142	0.35394	-0.09454	4P 7.91710	0.28388	-0.09992
3S 6.41240	0.00083	0.61978	-0.25461	4P 5.60390	0.18293	0.05174
3S 3.77420	-0.00011	0.04624	-0.07603	4P 2.89060	0.00529	0.55282
3S 2.70950	0.00001	-0.00873	0.65648	4P 1.62750	-0.00009	0.50896
3S 1.67090	-0.00001	0.00157	0.51654	4P 0.86650	0.00016	0.02556

*SULFUR K(2)L(8)3S(2)3P(3), 1D
T.E.=-0.39745210E 03 P.E.=-0.79488841E 03 K.E.= 0.39743631E 03 V.T.=-0.20000397E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.01698	-9.01565	-0.88586	BASIS/ORB E	-6.69377	-0.41536
1S 16.00000	0.97219	-0.26848	0.07805	2P 8.00000	0.61354	-0.15522
3S 18.02480	0.02878	-0.00287	0.00151	4P 14.02670	-0.00329	-0.02084
3S 12.88180	0.01402	0.07795	-0.02815	4P 12.76610	0.02933	0.02405
3S 9.56440	-0.00002	0.35775	-0.10528	4P 8.06590	0.26821	-0.09695
3S 6.40310	0.00026	0.61295	-0.23790	4P 5.74270	0.20338	0.04570
3S 3.77430	0.00022	0.04882	-0.15078	4P 2.88910	0.00776	0.56227
3S 2.82840	-0.00019	-0.01072	0.68476	4P 1.58780	-0.00025	0.51489
3S 1.69430	0.00003	0.00156	0.55333	4P 0.69610	0.00028	0.01833

*SULFUR K(2)L(8)3S(2)3P(3), 1S
T.E.=-0.39737444E 03 P.E.=-0.79473158E 03 K.E.= 0.39735714E 03 V.T.=-0.20000435E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.03617	-9.03302	-0.89568	BASIS/ORB E	-6.71098	-0.38349
1S 16.00000	0.97220	-0.26852	0.07823	2P 8.00000	0.61344	-0.15508
3S 18.02480	0.02878	-0.00224	0.00256	4P 14.07220	0.00281	-0.01155
3S 12.88180	0.01399	0.07474	-0.03371	4P 11.71970	0.03485	0.01434
3S 9.56440	0.00001	0.36461	-0.09399	4P 7.78640	0.29342	-0.10864
3S 6.40310	0.00021	0.60028	-0.25735	4P 5.53760	0.16819	0.07023
3S 4.27660	0.00018	0.04687	-0.02695	4P 2.82740	0.00625	0.57249
3S 2.59490	-0.00012	0.00095	0.67418	4P 1.53390	0.00079	0.49933
3S 1.62940	0.00003	0.00016	0.45263	4P 0.67710	0.00019	0.01861

*CHLORINE K(2)L(8)3S(2)3P(3), 2P
T.E.=-0.45948187E 03 P.E.=-0.91895770E 03 K.E.= 0.45947582E 03 V.T.=-0.20000131E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-104.88465	-10.60775	-1.07310	BASIS/ORB E	-8.07250	-0.50652
1S 17.00000	0.97352	-0.27280	0.08250	2P 8.50000	0.63254	-0.16954
3S 18.46490	0.03309	-0.00531	0.00397	4P 15.01240	0.00287	-0.00982
3S 13.85290	0.00305	0.08789	-0.03900	4P 12.32570	0.03393	0.01281
3S 10.09680	0.00724	0.35837	-0.09467	4P 8.37240	0.27156	-0.10925
3S 6.93920	-0.00344	0.59568	-0.27164	4P 6.10920	0.16389	0.07066
3S 4.43640	0.00182	0.05037	-0.03792	4P 3.19310	0.00707	0.56909
3S 2.90570	-0.00084	-0.00356	0.67094	4P 1.78630	-0.00034	0.49145
3S 1.81900	0.00019	0.00130	0.47332	4P 0.92930	0.00036	0.02336

*ARGON K(2)L(8)3S(2)3P(3), 1S
T.E.=-0.52681734E 03 P.E.=-0.10536049E 04 K.E.= 0.52678756E 03 V.T.=-0.20000564E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-118.61064	-12.32244	-1.27752	BASIS/ORB E	-9.57176	-0.59116
1S 18.00000	0.97453	-0.27666	0.08642	2P 9.00000	0.64951	-0.18072
3S 21.28480	0.01878	-0.00224	0.00232	4P 15.00000	0.01298	-0.01234
3S 15.50210	0.02233	0.04716	-0.02369	4P 11.96440	0.02669	0.02183
3S 11.23670	-0.00310	0.36409	-0.10542	4P 8.79240	0.28421	-0.12559
3S 7.50660	0.00215	0.63126	-0.28841	4P 6.30110	0.12881	0.10518
3S 4.70290	-0.00094	0.04500	-0.05813	4P 3.43270	0.00219	0.58041
3S 3.21380	0.00038	-0.00186	0.68983	4P 1.94090	0.00008	0.46149
3S 1.99310	-0.00010	0.00088	0.47773	4P 1.03090	-0.00002	0.02249

*POTASSIUM K(2)L(8)3S(2)3P(6)4S(1), 2S
T.E.=-0.59916446E 03 P.E.=-0.11983231E 04 K.E.= 0.59915868E 03 V.T.=-0.20000096E 01

S	1S	2S	3S	4S	P	2P	3P
BASIS/ORB E	-133.53357	-14.49036	-1.74883	-0.14742	BASIS/ORB E	-11.51969	-0.95441
1S 19.06810	0.93331	-0.27170	0.09037	0.01783	2P 8.63410	0.66802	-0.20988
1S 30.84670	0.01816	-0.00348	0.00072	-0.00005	2P 15.20120	0.04231	-0.01126
2S 16.87060	0.05954	-0.14145	0.04946	0.00901	3P 6.91269	0.34669	-0.12238
2S 7.51000	0.00464	0.98297	-0.35158	-0.06689	3P 3.18530	0.01426	0.61541
3S 6.54286	-0.00277	0.15057	-0.19612	-0.04670	3P 1.88513	-0.01352	0.51452
3S 3.95350	0.00220	0.00113	0.48367	0.12370	3P 1.65156	0.00900	-0.01998
3S 2.61230	-0.00244	0.00666	0.62641	0.10887			
4S 2.54324	0.00129	-0.00334	0.08203	0.02523			
4S 0.55000	-0.00005	0.00019	0.00386	-0.02704			
4S 1.26173	-0.00016	0.00053	0.01394	-0.36265			
4S 0.75000	0.00011	-0.00041	-0.00799	-0.69929			

*CALCIUM K(2)L(8)3S(2)3P(6)4S(2), 1S
T.E.=-0.67675803E 03 P.E.=-0.13535158E 04 K.E.= 0.67675784E 03 V.T.=-0.20000003E 01

S	1S	2S	3S	4S	P	2P	3P
BASIS/ORB E	-149.36379	-16.82283	-2.24536	-0.19550	BASIS/ORB E	-13.62938	-1.34068
1S 20.08360	0.93710	-0.27838	0.09747	-0.02358	2P 9.13081	0.67844	-0.22547
1S 31.97330	0.01668	-0.00170	-0.00018	0.00020	2P 16.00200	0.04219	-0.01274
2S 17.33330	0.05893	-0.15452	0.05523	-0.01270	3P 7.37633	0.33374	-0.13739
2S 8.45000	-0.00001	0.88814	-0.32769	0.07744	3P 3.62548	0.01216	0.54973
3S 7.42820	0.00143	0.27166	-0.22986	0.06386	3P 2.33592	-0.00437	0.52581
3S 3.93782	-0.00475	-0.02220	0.74185	-0.25054	3P 1.63154	0.00127	0.04001
3S 3.00000	0.00744	0.04909	0.07703	0.06421			
4S 3.07393	-0.00381	-0.02601	0.36868	-0.15518			
4S 1.62000	0.00023	0.00187	0.01253	0.33495			
4S 1.00651	-0.00012	-0.00102	-0.00419	0.66020			
4S 0.66369	0.00004	0.00036	0.00127	0.12610			

*SCANDIUM K(2)L(8)3S(2)3P(6)4S(2)3D(1), ^{2}D
T.E.=-0.75973555E 03 P.E.=-0.15194724E 04 K.E.= 0.75973682E 03 V.T.=-0.19999982E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E		-165.89982	-19.08061	-2.56739	-0.21010	BASIS/ORB E	-15.66825	-1.57461	BASIS/ORB E	-0.34360
1S	20.87910	0.94516	-0.28689	0.10204	-0.02389	2P 9.58918	0.68508	-0.23310	3D 3.57000	0.31704
1S	33.10000	0.02057	-0.00104	-0.00015	-0.00013	2P 16.47600	0.04662	-0.01513	3D 8.54690	0.02766
2S	18.00780	0.04346	-0.15322	0.05769	-0.01436	3P 7.86514	0.31806	-0.14563	3D 4.87290	0.06465
2S	8.60000	0.00314	0.98245	-0.37617	0.09135	3P 4.14168	0.01427	0.43067	3D 1.87040	0.56778
3S	7.37980	-0.00188	0.18326	-0.25076	0.06237	3P 2.83910	-0.00463	0.52471	3D 1.00000	0.19498
3S	4.73540	0.00179	-0.02689	0.49269	-0.10842	3P 2.06791	0.00126	0.17003		
3S	3.20865	-0.00210	0.03752	0.60701	-0.23747					
4S	3.22655	0.00111	-0.01945	0.13457	0.03251					
4S	1.52776	-0.00009	0.00174	0.01493	0.49931					
4S	0.96025	0.00009	-0.00163	-0.01097	0.50076					
4S	0.75312	-0.00004	0.00084	0.00538	0.09645					

*TITANIUM K(2)L(8)3S(2)3P(6)4S(2)3D(2), ^{3}F
T.E.=-0.84840523E 03 P.E.=-0.16968200E 04 K.E.= 0.84841470E 03 V.T.=-0.19999888E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E		-183.27192	-21.42236	-2.87326	-0.22081	BASIS/ORB E	-17.79065	-1.79494	BASIS/ORB E	-0.44028
1S	21.78320	0.95029	-0.29231	0.10649	-0.02379	2P 10.00560	0.69283	-0.23557	3D 2.00850	0.55179
1S	34.57420	0.02149	-0.00057	-0.00084	-0.00029	2P 16.79230	0.05359	-0.01963	3D 9.10000	0.03278
2S	18.70590	0.03563	-0.15767	0.05797	-0.01531	3P 8.32711	0.29944	-0.16304	3D 4.40390	0.25284
2S	9.30981	0.00444	0.93686	-0.35705	0.08760	3P 4.73525	0.01300	0.39692	3D 3.42000	0.17865
3S	8.23718	-0.00286	0.22976	-0.25133	0.05373	3P 2.92461	-0.00116	0.71972	3D 1.10460	0.14505
3S	4.83162	0.00338	-0.00795	0.54343	-0.06232	3P 1.34176	0.00017	0.03091		
3S	3.37930	-0.00487	0.02460	0.48850	-0.33674					
4S	3.48770	0.00267	-0.01355	0.17860	0.12273					
4S	1.53912	-0.00013	0.00082	0.01333	0.56471					
4S	0.93846	0.00011	-0.00072	-0.00925	0.49596					
4S	0.70026	-0.00006	0.00036	0.00438	0.02654					

*VANADIUM K(2)L(8)3S(2)3P(6)4S(2)3D(3), ^{4}F
T.E.=-0.94288287E 03 P.E.=-0.18857756E 04 K.E.= 0.94289280E 03 V.T.=-0.19999895E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E		-201.50192	-23.87424	-3.18313	-0.23067	BASIS/ORB E	-20.02207	-2.01907	BASIS/ORB E	-0.50942
1S	22.77630	0.95175	-0.29620	0.10614	-0.02339	2P 10.62360	0.65600	-0.21728	3D 3.02485	0.25464
1S	36.05340	0.02115	0.00019	0.00042	-0.00046	2P 16.68890	0.06784	-0.02862	3D 9.97104	0.02932
2S	19.54100	0.03441	-0.15795	0.06539	-0.01626	3P 9.04494	0.31581	-0.19052	3D 4.79190	0.30746
2S	9.37400	0.00415	1.04067	-0.42093	0.09958	3P 5.36697	0.02045	0.34598	3D 2.07560	0.44118
3S	7.90503	-0.00366	0.12576	-0.25395	0.05408	3P 3.20109	-0.00152	0.77679	3D 1.17200	0.12717
3S	5.12985	0.00552	-0.02332	0.73273	-0.11001	3P 1.47492	0.00027	0.03819		
3S	3.90220	-0.00569	0.02784	0.15618	-0.19022					
4S	3.75000	0.00214	-0.00967	0.39916	0.00303					
4S	1.65760	-0.00014	0.00066	0.01003	0.52960					
4S	0.99474	0.00010	-0.00046	-0.00469	0.53881					
4S	0.67649	-0.00004	0.00019	0.00179	0.02742					

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(2)3D(4), ^{5}D
T.E.=-0.10433061E 04 P.E.=-0.20866240E 04 K.E.= 0.10433178E 04 V.T.=-0.19999886E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E		-220.59135	-26.43866	-3.49901	-0.24002	BASIS/ORB E	-22.36478	-2.24828	BASIS/ORB E	-0.56886
1S	23.53540	0.94322	-0.28710	0.10858	-0.02338	2P 10.66740	0.65768	-0.19015	3D 3.47000	0.21723
1S	34.98000	0.03647	-0.00855	0.00097	-0.00063	2P 16.36250	0.10559	-0.05418	3D 10.35870	0.03006
2S	21.28350	0.02370	-0.14750	0.05287	-0.01277	3P 9.63424	0.25439	-0.24524	3D 5.22640	0.29068
2S	9.91772	0.00996	0.98190	-0.37463	0.08586	3P 6.64010	0.03594	0.29355	3D 2.34420	0.48069
3S	9.48828	-0.00719	0.14838	-0.22796	0.05191	3P 3.54736	0.00040	0.86545	3D 1.26450	0.14231
3S	5.80330	0.00384	0.02741	0.31596	-0.06370	3P 1.61428	0.00005	0.05265		
3S	4.02510	-0.00275	-0.00595	0.78809	-0.23986					
4S	3.28393	0.00100	0.00175	0.10198	0.03828					
4S	1.72262	-0.00030	-0.00025	0.00294	0.50271					
4S	1.05674	0.00019	0.00013	-0.00147	0.52778					
4S	0.72000	-0.00008	-0.00005	0.00059	0.05679					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(2)3D(5), 6S
T.E.=-0.11498651E 04 P.E.=-0.22997152E 04 K.E.= 0.11498502E 04 V.T.=-0.20000128E 01

S	1S	2S	3S	4S
BASIS/ORB E	-240.53357	-29.11007	-3.81684	-0.24801
1S 24.60960	0.95312	-0.30378	0.11283	-0.02403
1S 37.60670	0.02706	0.00053	-0.00083	-0.00006
2S 21.11770	0.02484	-0.16252	0.06340	-0.01460
2S 10.66850	0.00567	0.96978	-0.38358	0.08545
3S 9.75659	-0.00379	0.19210	-0.23797	0.05408
3S 5.73348	0.00287	0.02128	0.45292	-0.09262
3S 4.14800	-0.00261	-0.00733	0.62563	-0.20451
4S 3.65000	0.00097	0.00244	0.13316	0.02977
4S 1.81690	-0.00018	-0.00025	0.00478	0.50295
4S 1.08110	0.00012	0.00016	-0.00235	0.54246
4S 0.76520	-0.00006	-0.00007	0.00098	0.05052

P	2P	3P
BASIS/ORB E	-24.81302	-2.47967
2P 9.58940	0.85701	-0.34307
2P 16.26990	0.14805	-0.04274
3P 6.08000	0.01941	-0.15851
3P 5.28000	0.01069	0.68124
3P 3.43000	-0.00876	0.45354
3P 2.60000	0.00380	0.13901

D	3D
BASIS/ORB E	-0.63899
3D 3.72390	0.23794
3D 11.17720	0.02837
3D 5.61570	0.29074
3D 2.48490	0.46502
3D 1.37180	0.13663

*IRON K(2)L(8)3S(2)3P(6)4S(2)3D(6), 5D
T.E.=-0.12624425E 04 P.E.=-0.25248729E 04 K.E.= 0.12624305E 04 V.T.=-0.20000094E 01

S	1S	2S	3S	4S
BASIS/ORB E	-261.37311	-31.93623	-4.16972	-0.25832
1S 25.87820	0.95050	-0.31119	0.11608	-0.02450
1S 38.73300	0.02057	0.00637	-0.00282	0.00041
2S 21.33300	0.04070	-0.18073	0.07286	-0.01640
2S 11.01230	-0.00499	1.04033	-0.42089	0.09240
3S 9.50024	0.00654	0.14529	-0.30895	0.06947
3S 6.99020	-0.00555	0.00127	0.37399	-0.07729
3S 4.63797	0.00277	0.00444	0.76342	-0.21943
4S 3.92345	-0.00101	-0.00051	0.17426	0.00248
4S 1.95370	0.00022	0.00010	0.00777	0.47064
4S 1.15237	-0.00015	-0.00005	-0.00401	0.56440
4S 0.80019	0.00007	0.00002	0.00169	0.07094

P	2P	3P
BASIS/ORB E	-27.41431	-2.74242
2P 10.09200	0.85953	0.34921
2P 17.02370	0.14302	0.04091
3P 6.47648	0.02616	0.11443
3P 5.46805	0.00377	-0.67705
3P 3.45397	-0.00538	-0.48342
3P 2.55178	0.00253	-0.07098

D	3D
BASIS/ORB E	-0.64710
3D 4.09542	0.25357
3D 11.50000	0.03038
3D 6.00405	0.27181
3D 2.61691	0.46098
3D 1.44880	0.14758

*COBALT K(2)L(8)3S(2)3P(6)4S(2)3D(7), 4F
T.E.=-0.13814136E 04 P.E.=-0.27628098E 04 K.E.= 0.13813961E 04 V.T.=-0.20000126E 01

S	1S	2S	3S	4S
BASIS/ORB E	-283.06709	-34.86897	-4.52451	-0.26744
1S 26.82720	0.95648	-0.31023	0.11691	-0.02370
1S 41.36000	0.01825	0.00424	-0.00228	-0.
2S 22.00000	0.03559	-0.19736	0.07810	-0.01863
2S 12.16050	-0.00310	0.94423	-0.37884	0.08480
3S 10.54700	0.00287	0.27368	-0.29104	0.05670
3S 6.28224	-0.00457	-0.02723	0.57439	-0.04278
3S 5.20835	0.00416	0.03302	0.28446	-0.20861
4S 4.55000	-0.00092	-0.00686	0.39150	-0.01496
4S 2.01586	0.00010	0.00083	0.01366	0.47106
4S 1.19725	-0.00007	-0.00058	-0.00719	0.55169
4S 0.80849	0.00003	0.00025	0.00289	0.08430

P	2P	3P
BASIS/ORB E	-30.12083	-3.00640
2P 11.08080	0.88588	-0.35287
2P 19.70740	0.08163	-0.02227
3P 7.55286	0.08610	-0.10988
3P 5.72149	-0.02628	0.67813
3P 3.53189	0.00686	0.47766
3P 2.70842	-0.00191	0.05209

D	3D
BASIS/ORB E	-0.67554
3D 4.55414	0.30107
3D 12.07030	0.02931
3D 6.58018	0.22586
3D 2.74805	0.45926
3D 1.53400	0.15129

*NICKEL K(2)L(8)3S(2)3P(6)4S(2)3D(8), 3F
T.E.=-0.15068690E 04 P.E.=-0.30137473E 04 K.E.= 0.15068784E 04 V.T.=-0.19999936E 01

S	1S	2S	3S	4S
BASIS/ORB E	-305.61754	-37.91754	-4.88794	-0.27626
1S 27.78100	0.95283	-0.31396	0.11874	-0.02349
1S 40.98670	0.02300	0.00534	-0.00265	-0.00007
2S 22.66670	0.03504	-0.20538	0.08304	-0.01957
2S 12.65000	-0.00461	0.96662	-0.39356	0.08676
3S 10.71570	0.00453	0.27446	-0.31544	0.05940
3S 6.77220	-0.00696	-0.06406	0.57698	-0.04957
3S 5.51882	0.00598	0.05945	0.29014	-0.19405
4S 4.80234	-0.00135	-0.01214	0.41696	-0.02633
4S 2.13400	0.00014	0.00132	0.01491	0.43980
4S 1.26530	-0.00009	-0.00084	-0.00709	0.57464
4S 0.81220	0.00004	0.00033	0.00261	0.09855

P	2P	3P
BASIS/ORB E	-32.94135	-3.27776
2P 11.34410	0.77027	-0.28430
2P 18.00300	0.15818	-0.05903
3P 11.35750	0.08388	-0.09288
3P 6.30257	0.03084	0.49417
3P 4.13333	-0.01454	0.43345
3P 3.32861	0.00678	0.22459

D	3D
BASIS/ORB E	-0.70688
3D 4.63000	0.28189
3D 12.67910	0.02825
3D 6.87180	0.25511
3D 2.92530	0.44042
3D 1.60980	0.16453

*COPPER K(2)L(8)3S(2)3P(6)4S(1)3D(10), ^2S
T.E.=-0.16389614E 04 P.E.=-0.32779215E 04 K.E.= 0.16389601E 04 V.T.=-0.20000006E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-328.79337	-40.81991	-5.01322	-0.23673		BASIS/ORB E	-35.61884	-3.32613	BASIS/ORB E	-0.49280
1S	28.74260	0.95331	-0.32021	0.11948	-0.01752	2P 12.11030	0.80028	-0.29688	3D 5.03170	0.30798
1S	42.11330	0.02419	0.00785	-0.00277	-0.00135	2P 19.40000	0.12079	-0.04457	3D 12.72600	0.02800
2S	23.33300	0.03355	-0.20475	0.08567	-0.02213	3P 11.25080	0.08990	-0.12411	3D 7.54134	0.19943
2S	13.14530	-0.00597	0.96625	-0.39841	0.08537	3P 7.37582	0.02635	0.35715	3D 3.15745	0.39335
3S	11.41790	0.00704	0.26335	-0.27194	0.00262	3P 4.58041	-0.00278	0.68683	3D 1.67894	0.26697
3S	8.02300	-0.00961	-0.02418	-0.04205	0.18180	3P 2.86656	0.00112	0.14523		
3S	6.64662	0.00661	0.02423	0.83841	-0.34406					
4S	5.03278	-0.00110	-0.00206	0.43381	-0.01068					
4S	3.16106	0.00029	0.00067	0.02940	0.01765					
4S	1.75420	-0.00007	-0.00014	-0.00066	0.65507					
4S	0.86248	0.00002	0.00003	0.00021	0.46209					

*COPPER K(2)L(8)3S(2)3P(6)4S(2)3D(9), ^2D
T.E.=-0.16389491E 04 P.E.=-0.32778960E 04 K.E.= 0.16389468E 04 V.T.=-0.20000012E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-329.03389	-41.08498	-5.26083	-0.28480		BASIS/ORB E	-35.87927	-3.55712	BASIS/ORB E	-0.74038
1S	28.74260	0.95365	-0.31974	0.12146	-0.02324	2P 12.28570	0.73751	-0.26689	3D 5.07475	0.31434
1S	42.11330	0.02398	0.00758	-0.00352	-0.00015	2P 19.05910	0.13759	-0.05421	3D 13.00230	0.02967
2S	23.33300	0.03290	-0.20569	0.08341	-0.02030	3P 11.89190	0.13639	-0.13370	3D 7.38568	0.21821
2S	13.14530	-0.00470	0.96814	-0.39483	0.08770	3P 7.28405	0.03194	0.34444	3D 3.07229	0.43756
3S	11.41790	0.00407	0.25766	-0.29007	0.05002	3P 4.57457	-0.00502	0.70246	3D 1.71920	0.17128
3S	6.66320	-0.00901	-0.02230	0.79815	0.00126	3P 2.86688	0.00155	0.12338		
3S	5.83970	0.00851	0.02896	0.00731	-0.24358					
4S	5.03278	-0.00134	-0.00420	0.45458	-0.00949					
4S	2.14219	0.00012	0.00048	0.01497	0.48227					
4S	1.25246	-0.00009	-0.00035	-0.00844	0.53941					
4S	0.86248	0.00004	0.00016	0.00364	0.08635					

*ZINC K(2)L(8)3S(2)3P(6)4S(2)3D(10), ^1S
T.E.=-0.17778470E 04 P.E.=-0.35556901E 04 K.E.= 0.17778431E 04 V.T.=-0.20000021E 01

	S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-353.30417	-44.36183	-5.63790	-0.29248		BASIS/ORB E	-38.92495	-3.83943	BASIS/ORB E	-0.78265
1S	29.71610	0.95444	-0.32583	0.12076	-0.02347	2P 12.19890	0.85067	-0.33992	3D 4.93438	0.38220
1S	43.24000	0.02457	0.01024	-0.00253	0.00009	2P 19.96580	0.12713	-0.04126	3D 13.87230	0.02512
2S	24.00000	0.03108	-0.20354	0.09111	-0.01989	3P 10.64670	0.03369	-0.08400	3D 7.83689	0.23852
2S	13.24730	-0.00455	1.03470	-0.44308	0.09271	3P 6.95210	0.02042	0.54700	3D 3.00000	0.37343
3S	11.47710	0.00402	0.18142	-0.24559	0.04828	3P 4.17211	-0.00287	0.62185	3D 1.76906	0.15255
3S	6.86000	-0.00638	0.00531	0.70723	-0.09449	3P 1.85687	0.00067	0.01705		
3S	5.63000	0.00594	0.00119	0.20254	-0.15512					
4S	4.97681	-0.00143	0.00025	0.34731	-0.00584					
4S	2.24000	0.00014	0.00002	0.00717	0.47433					
4S	1.28005	-0.00010	0.	-0.00293	0.55790					
4S	0.89843	0.00005	-0.	0.00122	0.07951					

;ALLIUM K(2)L(8)M(18)4S(2)4P(1), 2P
'.E.=-0.19232602E 04 P.E.=-0.38465144E 04 K.E.= 0.19232543E 04 V.T.=-0.20000031E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
ASIS/ORB E	-378.81761	-48.16834	-6.39463	-0.42450	BASIS/ORB E	-42.49397	-4.48236	-0.20851	BASIS/ORB E	-1.19333
S 29.93430	0.76498	-0.33327	0.12682	-0.03544	2P 12.40390	0.89812	-0.35650	0.05922	3D 3.53245	0.42381
S 35.28420	0.21223	0.00937	-0.00334	0.00546	2P 20.75280	0.12506	-0.04324	0.00679	3D 2.10491	0.15345
S 25.91430	0.03348	-0.16205	0.06874	-0.01269	3P 12.04050	-0.03119	-0.05784	0.01006	3D 5.62461	0.32333
S 13.15630	-0.00632	1.06304	-0.44269	0.09769	3P 7.71830	0.04071	0.38450	-0.06981	3D 8.25432	0.22270
S 12.43000	0.00515	0.09863	-0.22361	0.07050	3P 4.89148	-0.01087	0.71817	-0.13185	3D 14.24930	0.02784
S 7.52398	-0.00213	0.02626	0.52482	-0.16506	4P 3.51840	0.00427	0.07386	0.03427		
S 4.95872	0.00088	-0.00493	0.69822	-0.16581	4P 1.96929	-0.00199	-0.00226	0.40034		
S 2.60490	-0.00025	0.00138	0.01130	0.45284	4P 1.17830	0.00143	0.00195	0.46995		
S 1.57412	0.00019	-0.00100	-0.00416	0.57327	4P 0.85416	-0.00067	-0.00074	0.22831		
S 1.02370	-0.00008	0.00041	0.00141	0.09786						

;ERMANIUM K(2)L(8)M(18)4S(2)4P(2), 3P
'.E.=-0.20753590E 04 P.E.=-0.41507086E 04 K.E.= 0.20753496E 04 V.T.=-0.20000044E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
ASIS/ORB E	-405.24359	-52.15028	-7.19088	-0.55332	BASIS/ORB E	-46.23608	-5.16147	-0.28730	BASIS/ORB E	-1.63478
S 30.75400	0.75827	-0.31617	0.11560	-0.03175	2P 13.20000	0.85883	-0.34831	0.06987	3D 3.78500	0.43759
S 36.38020	0.22243	-0.00681	0.00751	-0.00028	2P 21.57860	0.11779	-0.04023	0.00756	3D 2.32000	0.12154
S 26.68990	0.02892	-0.17452	0.07847	-0.01900	3P 12.74000	0.02091	-0.07025	0.01457	3D 6.04557	0.33919
S 13.96520	-0.00516	1.02729	-0.43965	0.11138	3P 8.03049	0.03891	0.35993	-0.07918	3D 8.75770	0.20943
S 12.73000	0.00429	0.15568	-0.24818	0.07828	3P 5.20522	-0.01045	0.73395	-0.16464	3D 14.75000	0.02845
S 7.80637	-0.00212	0.01652	0.53210	-0.17418	4P 3.70000	0.00389	0.07752	0.04071		
S 5.21033	0.00093	-0.00161	0.69793	-0.19976	4P 2.14000	-0.00178	-0.00711	0.49417		
S 2.84228	-0.00030	0.00052	0.01102	0.47836	4P 1.26000	0.00108	0.00453	0.52632		
S 1.77469	0.00027	-0.00042	-0.00447	0.52257	4P 0.87000	-0.00046	-0.00181	0.06322		
S 1.28187	-0.00012	0.00018	0.00178	0.12452						

ERMANIUM K(2)L(8)M(18)4S(2)4P(2), 1D
.E.=-0.20753206E 04 P.E.=-0.41506346E 04 K.E.= 0.20753139E 04 V.T.=-0.20000032E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
ASIS/ORB E	-405.25585	-52.16225	-7.20263	-0.56085	BASIS/ORB E	-46.24804	-5.17310	-0.25180	BASIS/ORB E	-1.64648
S 30.75400	0.75819	-0.31615	0.11589	-0.03048	2P 13.20000	0.85875	-0.34866	0.07029	3D 3.78375	0.43196
S 36.38020	0.22250	-0.00682	0.00728	-0.00136	2P 21.57860	0.11782	-0.04010	0.00698	3D 2.32000	0.12230
S 26.68990	0.02896	-0.17453	0.07830	-0.01987	3P 12.74000	0.02105	-0.06958	0.01191	3D 5.97149	0.33392
S 13.96520	-0.00522	1.02733	-0.43941	0.11303	3P 8.03049	0.03872	0.35865	-0.07359	3D 8.70390	0.21958
S 12.73000	0.00435	0.15563	-0.24856	0.07638	3P 5.20522	-0.01022	0.73565	-0.16824	3D 14.75000	0.02844
S 7.80637	-0.00219	0.01659	0.53272	-0.17035	4P 3.67256	0.00376	0.07713	0.05109		
S 5.21033	0.00098	-0.00167	0.69727	-0.20643	4P 2.14000	-0.00167	-0.00751	0.46675		
S 2.92598	-0.00033	0.00055	0.01093	0.42585	4P 1.26000	0.00083	0.00414	0.53455		
S 1.86198	0.00027	-0.00040	-0.00357	0.54944	4P 0.77000	-0.00029	-0.00126	0.09134		
S 1.28187	-0.00011	0.00015	0.00120	0.15390						

*ARSENIC K(2)L(8)M(18)4S(2)4P(3), 4S
T.E.=-0.22342382E 04 P.E.=-0.44684684E 04 K.E.= 0.22342303E 04 V.T.=-0.20000035E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.58556	-56.30999	-8.02963	-0.68593	BASIS/ORB E	-50.15387	-5.88069	-0.36950	BASIS/ORB E	-2.11267
1S 31.04000	0.78154	-0.35009	0.13414	-0.03662	2P 14.19280	0.79922	-0.32794	0.07528	3D 4.19815	0.47051
1S 38.23270	0.21784	0.00974	-0.00216	0.00035	2P 22.35000	0.11070	-0.03832	0.00772	3D 2.53953	0.11382
2S 26.01070	0.00396	-0.18787	0.08511	-0.02389	3P 13.40000	0.09672	-0.10026	0.02145	3D 6.49000	0.28550
2S 15.09690	0.00073	0.98813	-0.42697	0.11873	3P 8.29532	0.03539	0.35941	-0.08444	3D 9.00292	0.22539
3S 13.32530	0.00042	0.23863	-0.28162	0.08901	3P 5.52393	-0.01039	0.71629	-0.19263	3D 15.25000	0.03007
3S 8.06000	-0.00051	0.00966	0.52624	-0.17539	4P 4.30000	0.00365	0.08867	0.02966		
3S 5.47765	0.00025	0.00079	0.70050	-0.23303	4P 2.40198	-0.00111	0.00055	0.51859		
4S 3.11807	-0.00009	-0.00024	0.01079	0.46610	4P 1.43758	0.00057	0.00055	0.52752		
4S 1.99583	0.00008	0.00021	-0.00352	0.53723	4P 0.91000	-0.00020	-0.00021	0.04580		
4S 1.40854	-0.00003	-0.00010	0.00131	0.12973						

*ARSENIC K(2)L(8)M(18)4S(2)4P(3), 2D
T.E.=-0.22341716E 04 P.E.=-0.44683345E 04 K.E.= 0.22341630E 04 V.T.=-0.20000038E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.60169	-56.32557	-8.04476	-0.69519	BASIS/ORB E	-50.16947	-5.89566	-0.33016	BASIS/ORB E	-2.12775
1S 31.04000	0.78155	-0.35011	0.13404	-0.03832	2P 14.19280	0.79943	-0.32539	0.07475	3D 4.13703	0.44856
1S 38.23270	0.21783	0.00975	-0.00208	0.00153	2P 22.35000	0.11063	-0.03921	0.00766	3D 2.53953	0.10929
2S 26.01070	0.00395	-0.18786	0.08520	-0.02253	3P 13.40000	0.09638	-0.10478	0.02112	3D 6.19000	0.27395
2S 15.09690	0.00073	0.98814	-0.42712	0.11685	3P 8.29532	0.03608	0.37142	-0.08249	3D 8.78635	0.26205
3S 13.32530	0.00041	0.23862	-0.28144	0.09259	3P 5.52393	-0.01145	0.69527	-0.19456	3D 15.25000	0.03110
3S 8.06000	-0.00051	0.00966	0.52598	-0.18231	4P 4.54578	0.00410	0.09697	0.02937		
3S 5.47765	0.00024	0.00078	0.70079	-0.22605	4P 2.39877	-0.00089	0.00691	0.53432		
4S 3.07588	-0.00009	-0.00024	0.01094	0.47993	4P 1.38131	0.00049	-0.00209	0.51995		
4S 2.00044	0.00008	0.00021	-0.00391	0.51396	4P 0.92230	-0.00021	0.00103	0.04903		
4S 1.40252	-0.00003	-0.00010	0.00141	0.13650						

*ARSENIC K(2)L(8)M(18)4S(2)4P(3), 2P
T.E.=-0.22341281E 04 P.E.=-0.44682481E 04 K.E.= 0.22341198E 04 V.T.=-0.20000037E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.61242	-56.33604	-8.05500	-0.70155	BASIS/ORB E	-50.17994	-5.90578	-0.30500	BASIS/ORB E	-2.13796
1S 31.04000	0.78153	-0.35012	0.13412	-0.03914	2P 14.19280	0.79928	-0.32764	0.07518	3D 4.16025	0.47626
1S 38.23270	0.21785	0.00976	-0.00215	0.00208	2P 22.35000	0.11068	-0.03839	0.00732	3D 2.53953	0.10654
2S 26.01070	0.00397	-0.18786	0.08513	-0.02193	3P 13.40000	0.09664	-0.10061	0.01962	3D 6.59000	0.29735
2S 15.09690	0.00072	0.98813	-0.42702	0.11608	3P 8.29532	0.03552	0.36026	-0.07955	3D 9.00292	0.21349
3S 13.32530	0.00043	0.23863	-0.28159	0.09423	3P 5.52393	-0.01055	0.71451	-0.19621	3D 15.25000	0.03098
3S 8.06000	-0.00052	0.00964	0.52621	-0.18519	4P 4.31910	0.00376	0.08932	0.03719		
3S 5.47765	0.00025	0.00080	0.70057	-0.22390	4P 2.40198	-0.00119	0.00150	0.50623		
4S 3.08960	-0.00010	-0.00026	0.01112	0.45829	4P 1.43758	0.00072	0.00094	0.46130		
4S 2.05601	0.00008	0.00023	-0.00390	0.51269	4P 1.01000	-0.00031	-0.00005	0.13664		
4S 1.40932	-0.00003	-0.00010	0.00128	0.15919						

*SELENIUM K(2)L(8)M(18)4S(2)4P(4), 3P
T.E.=-0.23998669E 04 P.E.=-0.47997449E 04 K.E.= 0.23998780E 04 V.T.=-0.19999953E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-460.86637	-60.66843	-8.93188	-0.83729	BASIS/ORB E	-54.26843	-6.66133	-0.40280	BASIS/ORB E	-2.64941
1S 32.72190	0.84864	-0.35910	-0.13582	-0.04056	2P 14.59520	0.80941	-0.33058	0.08297	3D 4.56946	0.49015
1S 40.36390	0.14204	0.02384	0.00534	0.00220	2P 23.23490	0.10906	-0.04032	0.00868	3D 2.76000	0.10731
2S 26.88000	0.01612	-0.19520	-0.09300	-0.02664	3P 14.46870	0.07877	-0.09392	0.02105	3D 7.05692	0.29450
2S 15.29700	-0.00275	1.03275	0.45996	0.13423	3P 8.60000	0.05025	0.34533	-0.08618	3D 9.67514	0.19538
3S 13.48000	0.00235	0.18996	0.26669	0.09385	3P 5.76931	-0.01994	0.73408	-0.22060	3D 15.75000	0.02896
3S 8.33000	-0.00141	0.01055	-0.55338	-0.20050	4P 4.52461	0.00766	0.07327	0.04149		
3S 5.69057	0.00067	-0.00019	-0.68680	-0.24295	4P 2.57689	-0.00301	0.00374	0.56569		
4S 3.29607	-0.00023	0.00009	-0.00528	0.49019	4P 1.54770	0.00263	-0.00160	0.40642		
4S 2.17000	0.00017	-0.00007	-0.00018	0.53637	4P 1.25000	-0.00148	0.00114	0.11983		
4S 1.44187	-0.00006	0.00002	0.00006	0.11101						

*SELENIUM K(2)L(8)M(18)4S(2)4P(4), 1D
T.E.=-0.23998183E 04 P.E.=-0.47996324E 04 K.E.= 0.23998141E 04 V.T.=-0.20000017E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-460.87690	-60.67844	-8.94130	-0.84291	BASIS/ORB E	-54.27846	-6.67062	-0.38221	BASIS/ORB E	-2.65882
1S 32.72190	0.84863	-0.35909	-0.13582	-0.03962	2P 14.59520	0.80930	-0.33046	0.08390	3D 4.55911	0.47159
1S 40.36390	0.14204	0.02383	0.00534	0.00146	2P 23.23490	0.10910	-0.04034	0.00832	3D 2.86000	0.11576
2S 26.88000	0.01613	-0.19521	-0.09300	-0.02763	3P 14.46870	0.07891	-0.09399	0.01947	3D 7.05072	0.31064
2S 15.29700	-0.00276	1.03277	0.45997	0.13603	3P 8.60000	0.05001	0.34544	-0.08249	3D 9.71179	0.18822
3S 13.48000	0.00236	0.18995	0.26670	0.09153	3P 5.76931	-0.01963	0.73369	-0.22608	3D 15.75000	0.02929
3S 8.33000	-0.00141	0.01055	-0.55344	-0.19626	4P 4.52461	0.00738	0.07353	0.04986		
3S 5.69057	0.00067	-0.00020	-0.68676	-0.24855	4P 2.56134	-0.00270	0.00390	0.56355		
4S 3.29607	-0.00022	0.00009	-0.00528	0.50680	4P 1.52628	0.00191	-0.00078	0.43301		
4S 2.13653	0.00017	-0.00008	-0.00015	0.53292	4P 1.14896	-0.00094	0.00081	0.09572		
4S 1.45320	-0.00006	0.00002	0.00005	0.09917						

*SELENIUM K(2)L(8)M(18)4S(2)4P(4), 1S
T.E.=-0.23997465E 04 P.E.=-0.47994918E 04 K.E.= 0.23997454E 04 V.T.=-0.20000003E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-460.89206	-60.69313	-8.95552	-0.85165	BASIS/ORB E	-54.29317	-6.68465	-0.35238	BASIS/ORB E	-2.67301
1S 32.72190	0.84861	-0.35909	-0.13581	-0.04080	2P 14.59520	0.80940	-0.33043	0.08134	3D 4.57719	0.47733
1S 40.36390	0.14206	0.02382	0.00533	0.00226	2P 23.23490	0.10907	-0.04031	0.00915	3D 2.84770	0.11483
2S 26.88000	0.01615	-0.19521	-0.09301	-0.02668	3P 14.46870	0.07878	-0.09390	0.02314	3D 6.87536	0.25792
2S 15.29700	-0.00279	1.03278	0.45999	0.13464	3P 8.60000	0.05022	0.34520	-0.09111	3D 9.33371	0.23432
3S 13.48000	0.00239	0.18993	0.26668	0.09446	3P 5.76931	-0.01991	0.73369	-0.21138	3D 15.75000	0.03108
3S 8.33000	-0.00146	0.01056	-0.55343	-0.20183	4P 4.52461	0.00769	0.07325	0.02496		
3S 5.69057	0.00071	-0.00021	-0.68679	-0.24343	4P 2.67689	-0.00271	0.00433	0.52129		
4S 3.31030	-0.00027	0.00010	-0.00513	0.47187	4P 1.56183	0.00135	0.00036	0.49858		
4S 2.25445	0.00022	-0.00009	-0.00031	0.49981	4P 1.05000	-0.00055	0.00058	0.09716		
4S 1.54955	-0.00008	0.00002	0.00010	0.16546						

*BROMINE K(2)L(8)M(18)4S(2)4P(5), 2P
T.E.=-0.25724406E 04 P.E.=-0.51448821E 04 K.E.= 0.25724415E 04 V.T.=-0.19999996E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-490.05964	-65.19998	-9.87193	-0.99265	BASIS/ORB E	-58.55425	-7.47826	-0.45704	BASIS/ORB E	-3.22023
1S 33.78930	0.83792	-0.39732	-0.15216	-0.04431	2P 15.62390	0.74101	-0.30934	0.08542	3D 4.75844	0.47088
1S 40.87220	0.15089	0.05369	0.01698	0.00344	2P 23.84370	0.10964	-0.04009	0.00832	3D 2.98234	0.08876
2S 26.22760	0.02187	-0.22827	-0.11301	-0.03772	3P 15.09530	0.15507	-0.11944	0.02622	3D 7.27608	0.32308
2S 16.06790	-0.00818	1.06691	0.48882	0.15584	3P 8.54200	0.05352	0.42235	-0.10135	3D 10.07920	0.19536
3S 13.63000	0.00534	0.20470	0.28425	0.09553	3P 5.83305	-0.03045	0.66560	-0.24875	3D 16.25000	0.02998
3S 8.68515	-0.00319	0.00141	-0.56641	-0.19458	4P 5.12195	0.01261	0.05318	0.06474		
3S 5.95000	0.00151	0.00272	-0.69235	-0.28713	4P 2.79386	-0.00275	0.01136	0.57431		
4S 3.60787	-0.00051	-0.00066	-0.00275	0.48088	4P 1.68185	0.00168	-0.00419	0.44569		
4S 2.36382	0.00037	0.00040	-0.00230	0.55446	4P 1.20098	-0.00073	0.00210	0.07822		
4S 1.61950	-0.00013	-0.00015	0.00069	0.11669						

*KRYPTON K(2)L(8)M(18)4S(2)4P(6), 1S
T.E.=-0.27520543E 04 P.E.=-0.55041073E 04 K.E.= 0.27520529E 04 V.T.=-0.20000003E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-520.16444	-69.90297	-10.84936	-1.15286	BASIS/ORB E	-63.00967	-8.33140	-0.52410	BASIS/ORB E	-3.82516
1S 34.27260	0.73837	-0.41690	-0.15550	-0.04719	2P 16.33630	0.74427	-0.31600	0.09018	3D 5.19134	0.47749
1S 40.40000	0.25206	0.06490	0.01678	0.00350	2P 24.85430	0.09648	-0.03474	0.00779	3D 3.34983	0.10325
2S 26.81570	0.02023	-0.21848	-0.11584	-0.03974	3P 15.44510	0.16587	-0.12839	0.03172	3D 7.68953	0.28079
2S 16.44720	-0.00881	1.08043	0.50977	0.16816	3P 9.18326	0.04848	0.33180	-0.08481	3D 10.31620	0.20824
3S 13.96310	0.00593	0.18819	0.27066	0.09647	3P 6.42050	-0.02150	0.73159	-0.26625	3D 16.73790	0.03159
3S 8.89765	-0.00379	0.00226	-0.57130	-0.20412	4P 5.25899	0.00775	0.08780	0.03490		
3S 6.22432	0.00191	0.00214	-0.68418	-0.30194	4P 3.07835	-0.00253	0.00399	0.54322		
4S 3.83098	-0.00064	-0.00052	-0.00538	0.47727	4P 1.96210	0.00152	-0.00065	0.40037		
4S 2.56514	0.00044	0.00028	-0.00082	0.55546	4P 1.42200	-0.00060	0.00026	0.16488		
4S 1.73148	-0.00015	-0.00010	0.00002	0.12492						

TABLE 02- 01

*LITHIUM 1S(2)2S(2), 1S
T.E.=-0.74282298E 01 P.E.=-0.14856450E 02
K.E.= 0.74282201E 01 V.T.=-0.20000012E 01

	S	1S	2S
BASIS/ORB E		-2.32277	-0.01453
1S	2.47390	0.89781	0.10060
1S	4.69250	0.11220	0.01091
2S	0.26750	-0.00001	-0.39777
2S	0.53520	0.00012	-0.56499
2S	1.02870	-0.00111	-0.20741
2S	1.63500	0.00722	0.08563

*BORON 1S(2)2S(2)2P(2), 3P
T.E.=-0.24519192E 02 P.E.=-0.49038872E 02
K.E.= 0.24519680E 02 V.T.=-0.19999801E 01

S		1S		2S		P		2P
BASIS/ORB	E	-7.42470		-0.24235	BASIS/ORB	E		-0.02630
1S	4.56400	0.90850		-0.16997	2P	1.29490		0.19090
1S	8.05110	0.06844		-0.01482	2P	2.03850		0.15130
2S	1.61480	0.00145		0.60870	2P	0.86150		0.43894
2S	4.09790	0.03697		-0.07949	2P	0.42080		0.36354
2S	0.89810	-0.00008		0.49398	2P	5.30820		0.00825

*BORON 1S(2)2S(2)2P(2), 1S
T.E.=-0.24439497E 02 P.E.=-0.48934283E 02
K.E.= 0.24494787E 02 V.T.=-0.19977427E 01

S		1S		2S		P		2P
BASIS/ORB	E	-7.44340		-0.24944	BASIS/ORB	E		0.05091
1S	4.56880	0.90479		-0.16746	2P	0.66710		0.82821
1S	8.01870	0.06986		-0.01675	2P	1.91230		0.28246
2S	1.62210	0.00147		0.61202	2P	5.54690		0.00974
2S	4.15550	0.03951		-0.08306	2P	3.50000		-0.01377
2S	0.90660	-0.00009		0.49051				

*CARBON 1S(2)2S(2)2P(3), 2D
T.E.=-0.37642517E 02 P.E.=-0.75286346E 02
K.E.= 0.37643828E 02 V.T.=-0.19999652E 01

S		1S		2S		P		2P
BASIS/ORB	E	-11.00436		-0.40227	BASIS/ORB	E		-0.04732
1S	5.39130	0.92119		-0.18862	2P	1.48080		0.37353
1S	9.15150	0.08345		-0.01745	2P	2.55690		0.19624
2S	2.13190	0.00413		0.55640	2P	0.89590		0.33979
2S	4.87650	0.00199		-0.08448	2P	0.50500		0.23326
2S	1.19500	-0.00073		0.55756	2P	6.02380		0.01072

*NITROGEN 1S(2)2S(2)2P(4), 3P
T.E.=-0.54321890E 02 P.E.=-0.10864503E 03
K.E.= 0.54323141E 02 V.T.=-0.19999769E 01

S		1S		2S		P		2P
BASIS/ORB	E	-15.24207		-0.58048	BASIS/ORB	E		-0.09354
1S	6.51550	0.92193		-0.20046	2P	1.61090		0.49201
1S	10.97560	0.06151		-0.01158	2P	3.03380		0.25176
2S	2.56960	0.00320		0.56948	2P	0.86930		0.29931
2S	5.70210	0.02643		-0.09245	2P	0.56960		0.08896
2S	1.42600	-0.00020		0.55196	2P	7.11750		0.01108

*BORON 1S(2)2S(2)2P(2), 1D
T.E.=-0.24490477E 02 P.E.=-0.48981524E 02
K.E.= 0.24491046E 02 V.T.=-0.19999766E 01

S		1S		2S		P		2P
BASIS/ORB	E	-7.47097		-0.27520	BASIS/ORB	E		-0.00768
1S	4.53910	0.92265		-0.18094	2P	1.19695		-0.33010
1S	8.20480	0.06396		-0.01198	2P	2.34539		-0.11623
2S	1.62050	0.00141		0.63364	2P	0.79646		-0.32480
2S	3.92750	0.02578		-0.08084	2P	0.34495		-0.42192
2S	0.91380	-0.00015		0.47204	2P	7.95657		-0.00229

*CARBON 1S(2)2S(2)2P(3), 4S
T.E.=-0.37708780E 02 P.E.=-0.75418613E 02
K.E.= 0.37709831E 02 V.T.=-0.19999720E 01

S		1S		2S		P		2P
BASIS/ORB	E	-10.95603		-0.37268	BASIS/ORB	E		-0.07687
1S	5.41950	0.91905		-0.18726	2P	1.45690		0.37911
1S	9.18390	0.08065		-0.01610	2P	2.46000		0.21400
2S	2.15270	0.00365		0.54530	2P	0.87550		0.37520
2S	4.78200	0.00806		-0.08783	2P	0.53080		0.14926
2S	1.17820	-0.00049		0.57448	2P	5.68740		0.01400

*CARBON 1S(2)2S(2)2P(3), 2P
T.E.=-0.37600835E 02 P.E.=-0.75201952E 02
K.E.= 0.37601116E 02 V.T.=-0.19999926E 01

S		1S		2S		P		2P
BASIS/ORB	E	-11.03842		-0.42381	BASIS/ORB	E		-0.03114
1S	5.44160	0.90450		0.17870	2P	1.40190		0.34219
1S	9.05280	0.08659		0.02193	2P	2.54300		0.21672
2S	2.00170	0.00338		-0.65181	2P	1.01750		0.25896
2S	5.23570	0.01823		0.07960	2P	0.51290		0.34134
2S	1.13050	-0.00062		-0.45023	2P	6.38540		0.00874

*NITROGEN 1S(2)2S(2)2P(4), 1D
T.E.=-0.54266869E 02 P.E.=-0.10853466E 03
K.E.= 0.54267798E 02 V.T.=-0.19999828E 01

S		1S		2S		P		2P
BASIS/ORB	E	-15.27184		-0.59809	BASIS/ORB	E		-0.07735
1S	6.52870	0.92668		-0.20540	2P	1.60000		0.48071
1S	11.13750	0.05684		-0.00926	2P	3.02790		0.25542
2S	2.56600	0.00274		0.58165	2P	0.88370		0.27317
2S	5.59840	0.02664		-0.09331	2P	0.56830		0.13205
2S	1.42750	-0.00008		0.54189	2P	7.14990		0.01081

TABLE 02- 03

*NITROGEN 1S(2)2S(2)2P(4), 1S
T.E.=-0.54186821E 02 P.E.=-0.10837412E 03
K.E.= 0.54187295E 02 V.T.=-0.19999912E 01

S		1S		2S	P		2P
BASIS/ORB	E	-15.31742		-0.62573	BASIS/ORB	E	-0.05540
1S	6.50440	0.92905		-0.20983	2P	1.59500	0.44663
1S	11.11680	0.05833		-0.00850	2P	3.01180	0.26146
2S	2.55590	0.00298		0.59439	2P	0.96960	0.22239
2S	5.54310	0.02199		-0.09194	2P	0.57910	0.22481
2S	1.43530	-0.00020		0.52885	2P	7.26440	0.01042

*FLUORINE 1S(2)2S(2)2P(6), 1S
T.E.=-0.99459363E 02 P.E.=-0.19891796E 03
K.E.= 0.99458592E 02 V.T.=-0.20000076E 01

S		1S		2S	P		2P
BASIS/ORB	E	-25.82944		-1.07436	BASIS/ORB	E	-0.18079
1S	8.91650	0.89485		-0.20209	2P	2.05190	0.49534
1S	14.70070	0.03607		-0.00806	2P	3.92880	0.30959
2S	3.27620	0.00398		0.62940	2P	1.44960	0.05258
2S	8.04770	0.08584		-0.09702	2P	0.97630	0.26664
2S	1.84850	-0.00035		0.48231	2P	8.29430	0.01709

*OXYGEN 1S(2)2S(2)2P(5), 2P
T.E.=-0.74789481E 02 P.E.=-0.14958479E 03
K.E.= 0.74795307E 02 V.T.=-0.19999220E 01

S		1S		2S	P		2P
BASIS/ORB	E	-20.19776		-0.81322	BASIS/ORB	E	-0.12889
1S	7.61260	0.93738		-0.21372	2P	1.74240	0.53263
1S	13.36540	0.03883		-0.00567	2P	3.43630	0.30422
2S	3.20450	0.00177		0.50515	2P	0.85650	0.28544
2S	6.28960	0.03521		-0.11256	2P	0.47000	0.00840
2S	1.76370	0.00049		0.63373	2P	7.80700	0.01370

TABLE 02- 04

*SODIUM K(2)L(8)3S(2), 1S
T.E.=-0.16185464E 03 P.E.=-0.32370756E 03
K.E.= 0.16185292E 03 V.T.=-0.20000107E 01

S		1S	2S	3S	P		2P
BASIS/ORB	E	-40.33166	-2.64986	-0.01255	BASIS/ORB	E	-1.37095
1S	11.12670	0.89279	-0.21546	0.02026	2P	2.36170	0.54654
1S	18.24120	0.02586	-0.00759	0.00196	2P	4.30370	0.44673
2S	4.12710	0.00447	0.79854	-0.09503	2P	8.00650	0.06221
2S	10.00000	0.09907	-0.11376	0.01550	2P	1.45860	0.02402
3S	0.96400	0.00012	0.00154	0.50712			
3S	0.41810	-0.00005	-0.00045	0.63179			
3S	3.13580	-0.00070	0.33328	-0.03017			

*ALUMINUM K(2)L(8)3S(2)3P(2), 3P
T.E.=-0.24187770E 03 P.E.=-0.48375591E 03 K.E.= 0.24187820E 03 V.T.=-0.19999979E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.30692	-4.71540	-0.20799	BASIS/ORB E	-3.02428	-0.01977
1S 13.75570	0.85238	-0.21802	0.04698	2P 5.48040	0.63664	-0.08861
1S 21.36000	0.01897	-0.00672	0.00211	2P 10.93010	0.03401	-0.00503
2S 4.54680	0.00496	0.99251	-0.24299	3P 1.73000	0.01567	0.15392
2S 12.40000	0.15296	-0.12468	0.03072	3P 0.48330	0.00089	0.46497
3S 1.79450	0.00095	-0.02386	0.62005	3P 3.91090	0.41322	-0.06334
3S 0.97800	-0.00030	0.00623	0.52889	3P 1.01180	-0.00377	0.54328
3S 3.12090	-0.00190	0.12454	-0.08977			

*ALUMINUM K(2)L(8)3S(2)3P(2), 1D
T.E.=-0.24185643E 03 P.E.=-0.48371231E 03 K.E.= 0.24185587E 03 V.T.=-0.20000023E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.33595	-4.74416	-0.23083	BASIS/ORB E	-3.05264	-0.00534
1S 13.84270	0.85232	-0.21764	0.04715	2P 5.48430	0.63481	-0.08322
1S 22.83260	0.01347	-0.00532	0.00201	2P 10.86090	0.03452	-0.00512
2S 4.56800	0.00552	0.98151	-0.24536	3P 1.66650	0.01486	0.20759
2S 12.45420	0.15906	-0.12640	0.03224	3P 0.37420	0.00094	0.44058
3S 1.73450	0.00095	-0.01522	0.64445	3P 3.91350	0.41523	-0.06306
3S 0.97810	-0.00035	0.00466	0.48056	3P 0.89380	-0.00338	0.56630
3S 3.29190	-0.00213	0.12891	-0.07144			

*ALUMINUM K(2)L(8)3S(2)3P(2), 1S
T.E.=-0.24182998E 03 P.E.=-0.48366234E 03 K.E.= 0.24183235E 03 V.T.=-0.19999901E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.38485	-4.79292	-0.27178	BASIS/ORB E	-3.10087	0.00570
1S 13.77000	0.85001	-0.21774	0.04636	2P 5.49060	0.62950	-0.07495
1S 21.36170	0.01953	-0.00667	0.00338	2P 10.66170	0.03644	-0.00543
2S 4.54490	0.00522	0.99061	-0.25570	3P 1.70830	0.01554	0.20433
2S 12.43380	0.15489	-0.12425	0.03397	3P 0.27410	0.00076	0.51450
3S 1.68270	0.00092	-0.01738	0.70106	3P 3.93040	0.41785	-0.06306
3S 0.97350	-0.00035	0.00558	0.41236	3P 0.84020	-0.00267	0.57729
3S 3.19840	-0.00194	0.11965	-0.05982			

*SILICON K(2)L(8)3S(2)3P(3), 4S
T.E.=-0.28888942E 03 P.E.=-0.57777756E 03 K.E.= 0.28888815E 03 V.T.=-0.20000044E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.55306	-5.89655	-0.30148	BASIS/ORB E	-3.99768	-0.06156
1S 14.60220	0.87604	-0.22584	0.05456	2P 6.17000	0.62873	-0.11545
1S 23.21380	0.01698	-0.00824	0.00245	2P 12.40000	0.02638	-0.00502
2S 5.29370	0.00484	0.89441	-0.24112	3P 2.04140	0.01764	0.18819
2S 13.15000	0.12769	-0.13363	0.03596	3P 0.68930	0.00101	0.39863
3S 2.00200	0.00031	0.00058	0.65693	3P 4.48690	0.42217	-0.08566
3S 1.13040	-0.00013	0.00042	0.46686	3P 1.29400	-0.00507	0.54868
3S 4.38090	-0.00141	0.22380	-0.10265			

*SILICON K(2)L(8)3S(2)3P(3), 2D
T.E.=-0.28884140E 03 P.E.=-0.57768229E 03 K.E.= 0.28884088E 03 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.58098	-5.92363	-0.31997	BASIS/ORB E	-4.02441	-0.03846
1S 14.61870	0.87279	-0.22441	0.05445	2P 6.15520	0.63192	-0.11510
1S 22.65050	0.01850	-0.00909	0.00283	2P 12.35420	0.02663	-0.00466
2S 5.29220	0.00443	0.89510	-0.24396	3P 1.75910	0.01367	0.40717
2S 13.15010	0.12993	-0.13440	0.03672	3P 0.52150	0.00164	0.24013
3S 1.99360	0.00023	0.00068	0.67311	3P 4.45920	0.42194	-0.07975
3S 1.13230	-0.00009	0.00035	0.44913	3P 0.97800	-0.00468	0.51396
3S 4.38150	-0.00116	0.22303	-0.10242			

*SILICON K(2)L(8)3S(2)3P(3), 2P
T.E.=-0.28881104E 03 P.E.=-0.57761969E 03 K.E.= 0.28880864E 03 V.T.=-0.20000082E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.60123	-5.94313	-0.33383	BASIS/ORB E	-4.04365	-0.02518
1S 14.54400	0.88280	-0.22948	-0.05547	2P 6.15750	0.63187	-0.11320
1S 23.89720	0.01561	-0.00682	-0.00253	2P 12.40000	0.02635	-0.00467
2S 5.29620	0.00525	0.89324	0.24705	3P 1.81900	0.01403	0.35858
2S 13.10960	0.12126	-0.13113	-0.03706	3P 0.49990	0.00139	0.30085
3S 1.98220	0.00041	0.00104	-0.67374	3P 4.46240	0.42173	-0.08043
3S 1.15260	-0.00018	0.00020	-0.44160	3P 1.02640	-0.00392	0.52271
3S 4.39300	-0.00168	0.22474	0.09847			

*PHOSPHORUS K(2)L(8)3S(2)3P(4), 3P
T.E.=-0.34069865E 03 P.E.=-0.68139848E 03 K.E.= 0.34069981E 03 V.T.=-0.19999965E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.69247	-7.23214	-0.43640	BASIS/ORB E	-5.12341	-0.07693
1S 15.92620	0.84531	-0.21011	0.05413	2P 6.50980	0.65072	-0.13747
1S 22.73750	0.02469	-0.01822	0.00594	2P 12.16890	0.03983	-0.00845
2S 5.60660	0.00542	0.94626	-0.27849	3P 2.21250	0.01241	0.32521
2S 14.42860	0.15374	-0.14676	0.04312	3P 0.75250	0.00093	0.31615
3S 2.32760	0.00047	0.00105	0.66545	3P 4.89900	0.38170	-0.09112
3S 1.33310	-0.00018	0.00047	0.47416	3P 1.37190	-0.00307	0.50812
3S 4.68750	-0.00195	0.16481	-0.10859			

*PHOSPHORUS K(2)L(8)3S(2)3P(4), 1D
T.E.=-0.34065976E 03 P.E.=-0.68131953E 03 K.E.= 0.34065978E 03 V.T.=-0.19999999E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.70990	-7.24871	-0.44733	BASIS/ORB E	-5.13981	-0.06432
1S 16.17310	0.84153	-0.21057	0.05430	2P 6.50450	0.65165	-0.13675
1S 23.73730	0.01440	-0.01416	0.00494	2P 12.17730	0.03986	-0.00854
2S 5.59610	0.00490	0.94847	-0.28107	3P 2.33810	0.01210	0.25727
2S 14.50010	0.17027	-0.15018	0.04449	3P 0.72170	0.00078	0.34324
3S 2.31190	0.00035	0.00097	0.68036	3P 4.89740	0.38001	-0.09278
3S 1.32620	-0.00013	0.00048	0.45780	3P 1.43890	-0.00144	0.56244
3S 4.67770	-0.00160	0.16162	-0.10584			

*PHOSPHORUS K(2)L(8)3S(2)3P(4), 1S
T.E.=-0.34060314E 03 P.E.=-0.68120757E 03 K.E.= 0.34060442E 03 V.T.=-0.19999962E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.73376	-7.27138	-0.46228	BASIS/ORB E	-5.16220	-0.04552
1S 16.01300	0.84036	-0.20889	0.05461	2P 6.48640	0.65208	-0.13524
1S 23.00000	0.02318	-0.01764	0.00565	2P 12.06840	0.04151	-0.00914
2S 5.58370	0.00594	0.95043	-0.28178	3P 2.38930	0.01216	0.24973
2S 14.51070	0.16093	-0.14732	0.04336	3P 0.70500	0.00104	0.36964
3S 2.32850	0.00059	0.00244	0.67768	3P 4.89330	0.37730	-0.09500
3S 1.33780	-0.00022	-0.00006	0.46238	3P 1.44500	-0.00053	0.55630
3S 4.69370	-0.00230	0.15754	-0.10888			

*SULFUR K(2)L(8)3S(2)3P(5), 2P
T.E.=-0.39753819E 03 P.E.=-0.79507598E 03 K.E.= 0.39753778E 03 V.T.=-0.20000009E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-91.67599	-8.67518	-0.57937	BASIS/ORB E	-6.35494	-0.10742
1S 15.73190	0.92758	-0.26302	0.07506	2P 7.08240	0.65298	-0.15235
1S 24.08890	0.03684	-0.00658	0.00139	2P 13.10000	0.03797	-0.00883
2S 6.75520	0.00480	0.79254	-0.24100	3P 2.60760	0.01284	0.29446
2S 13.92710	0.04456	-0.13313	0.03965	3P 0.90960	0.00091	0.34500
3S 2.55610	0.00023	0.00680	0.69648	3P 5.42040	0.37609	-0.10281
3S 1.48460	-0.00011	-0.00084	0.43761	3P 1.67670	-0.00210	0.51322
3S 5.71910	-0.00127	0.35864	-0.17315			

*CHLORINE K(2)L(8)3S(2)3P(6), 1S
T.E.=-0.45957667E 03 P.E.=-0.91915387E 03 K.E.= 0.45957718E 03 V.T.=-0.19999988E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-104.50528	-10.22890	-0.73290	BASIS/ORB E	-7.69531	-0.14988
1S 17.28750	0.91793	-0.25652	0.07523	2P 7.64190	0.65625	-0.16376
1S 28.44720	0.01495	-0.00460	0.00152	2P 13.97630	0.03696	-0.00908
2S 6.81720	0.00355	0.89068	-0.28724	3P 2.89850	0.01249	0.32880
2S 15.36820	0.08173	-0.13956	0.04485	3P 1.03740	0.00051	0.32345
3S 2.86690	0.00012	0.00630	0.69590	3P 5.93210	0.37039	-0.11084
3S 1.67230	-0.00006	-0.00038	0.45212	3P 1.86150	-0.00271	0.50195
3S 5.95030	-0.00097	0.24136	-0.15224			

*POTASSIUM K(2)L(8)3S(2)3P(6)4S(2), 1S
T.E.=-0.59916177E 03 P.E.=-0.11983240E 04 K.E.= 0.59916218E 03 V.T.=-0.19999993E 01

S	1S	2S	3S	4S	P	2P	3P
BASIS/ORB E	-133.41314	-14.37002	-1.62894	-0.01021	BASIS/ORB E	-11.39935	-0.83455
1S 19.06810	0.93330	-0.27169	0.09046	0.01243	2P 8.63410	0.66861	-0.20571
1S 30.84670	0.01816	-0.00348	0.00068	-0.00001	2P 15.20120	0.04211	-0.01263
2S 16.87060	0.05955	-0.14146	0.04934	0.00641	3P 6.91269	0.34538	-0.13525
2S 7.51000	0.00462	0.98301	-0.35132	-0.04711	3P 3.48000	0.01382	0.42888
3S 6.54286	-0.00273	0.15044	-0.19707	-0.03200	3P 2.28513	-0.00465	0.50698
3S 3.95350	0.00209	0.00152	0.48727	0.08399	3P 1.65156	0.00140	0.18452
3S 2.61230	-0.00225	0.00601	0.61956	0.08093			
4S 2.54324	0.00116	-0.00288	0.08753	0.01424			
4S 0.34514	-0.00001	0.00004	0.00094	-0.37571			
4S 1.26173	-0.00010	0.00034	0.01039	-0.25517			
4S 0.69152	0.00004	-0.00014	-0.00331	-0.57465			

*SCANDIUM K(2)L(8)3S(2)3P(6)4S(2)3D(2), 3F
T.E.=-0.75968831E 03 P.E.=-0.15193812E 04 K.E.= 0.75969289E 03 V.T.=-0.19999938E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-165.61012	-18.76899	-2.26563	-0.01553	BASIS/ORB E	-15.36041	-1.28758	BASIS/ORB E	-0.05999
1S 20.87910	0.94520	-0.28691	0.10151	-0.01519	2P 9.58918	0.68533	-0.22979	3D 3.26577	0.30758
1S 33.10000	0.02056	-0.00104	-0.00038	-0.00024	2P 16.47600	0.04662	-0.01504	3D 8.54690	0.02229
2S 18.00780	0.04345	-0.15327	0.05636	-0.00982	3P 7.86514	0.31769	-0.14425	3D 4.87290	0.07923
2S 8.60000	0.00310	0.98275	-0.37076	0.06041	3P 4.14168	0.01444	0.43160	3D 1.62554	0.54356
3S 7.37980	-0.00181	0.18254	-0.25417	0.03595	3P 2.83910	-0.00470	0.48038	3D 0.73442	0.28721
3S 4.73540	0.00168	-0.02528	0.51903	-0.05401	3P 2.06791	0.00142	0.21725		
3S 3.20865	-0.00193	0.03498	0.52745	-0.18089					
4S 3.22655	0.00100	-0.01774	0.19445	0.04334					
4S 1.52776	-0.00007	0.00123	0.01800	0.22626					
4S 0.96025	0.00003	-0.00061	-0.00688	0.48331					
4S 0.49289	-0.00001	0.00015	0.00158	0.47270					

*TITANIUM K(2)L(8)3S(2)3P(6)4S(2)3D(3), 4F
T.E.=-0.84837163E 03 P.E.=-0.16967553E 04 K.E.= 0.84838366E 03 V.T.=-0.19999857E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-182.95597	-21.08304	-2.54614	-0.01576	BASIS/ORB E	-17.45539	-1.48341	BASIS/ORB E	-0.11734
1S 21.78320	0.95032	-0.29233	0.10610	-0.01515	2P 10.00560	0.69304	-0.23102	3D 1.88584	0.51194
1S 34.57420	0.02148	-0.00056	-0.00114	-0.00012	2P 16.79230	0.05359	-0.01995	3D 9.10000	0.02858
2S 18.70590	0.03562	-0.15771	0.05631	-0.00944	3P 8.32711	0.29913	-0.16469	3D 4.40390	0.24042
2S 9.30981	0.00438	0.93714	-0.35119	0.05477	3P 4.73525	0.01303	0.40944	3D 3.17000	0.17625
3S 8.23718	-0.00278	0.22924	-0.25516	0.03511	3P 2.86334	-0.00100	0.70805	3D 0.92696	0.25473
3S 4.83162	0.00318	-0.00661	0.58405	-0.05058	3P 1.34176	0.00023	0.03661		
3S 3.37930	-0.00451	0.02224	0.37326	-0.18179					
4S 3.48770	0.00244	-0.01200	0.26198	0.05490					
4S 1.53912	-0.00008	0.00054	0.01542	0.29321					
4S 0.88168	0.00004	-0.00026	-0.00566	0.51785					
4S 0.44922	-0.00001	0.00008	0.00160	0.39046					

*VANADIUM K(2)L(8)3S(2)3P(6)4S(2)3D(4), 5D
T.E.=-0.94286110E 03 P.E.=-0.18857387E 04 K.E.= 0.94287758E 03 V.T.=-0.19999824E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-201.16366	-23.51204	-2.83469	-0.01628	BASIS/ORB E	-19.66408	-1.68653	BASIS/ORB E	-0.16150
1S 22.77630	0.95178	-0.29623	0.10576	-0.01494	2P 10.53300	0.66059	-0.21206	3D 1.77900	0.40026
1S 36.05340	0.02114	0.00020	0.00014	-0.00013	2P 16.60760	0.07195	-0.03122	3D 9.90720	0.02732
2S 19.54100	0.03440	-0.15797	0.06385	-0.00960	3P 9.04882	0.30355	-0.19509	3D 4.77520	0.28121
2S 9.37400	0.00409	1.04089	-0.41497	0.06088	3P 5.50616	0.02327	0.33495	3D 2.85268	0.32610
3S 7.90503	-0.00354	0.12517	-0.26027	0.03877	3P 3.18858	-0.00157	0.78740	3D 0.94564	0.16928
3S 5.12985	0.00515	-0.02158	0.78221	-0.09940	3P 1.47490	0.00041	0.05007		
3S 3.87759	-0.00531	0.02610	0.05966	-0.06786					
4S 3.75000	0.00202	-0.00911	0.45484	-0.02706					
4S 1.65760	-0.00009	0.00046	0.01312	0.28985					
4S 0.90074	0.00004	-0.00019	-0.00381	0.55091					
4S 0.44708	-0.00001	0.00006	0.00108	0.37483					

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(2)3D(5), ^{6}S
T.E.=-0.10433326E 04 P.E.=-0.20867017E 04 K.E.= 0.10433690E 04 V.T.=-0.19999650E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-220.22235	-26.04511	-3.12346	-0.01668	BASIS/ORB E	-21.97561	-1.88959	BASIS/ORB E	-0.21120
1S 23.53540	0.94322	-0.28716	0.10796	-0.01505	2P 10.66740	0.65793	-0.19320	3D 1.92376	0.45143
1S 34.98000	0.03648	-0.00852	0.00078	-0.00004	2P 16.36250	0.10558	-0.05155	3D 10.35870	0.02875
2S 21.28350	0.02373	-0.14748	0.05199	-0.00705	3P 9.63424	0.25404	-0.23309	3D 5.22640	0.25903
2S 9.91772	0.00983	0.98204	-0.37047	0.05108	3P 5.64010	0.03599	0.27956	3D 3.29019	0.33024
3S 9.48828	-0.00701	0.14818	-0.22754	0.03565	3P 3.54736	0.00053	0.85988	3D 0.95000	0.13007
3S 5.80330	0.00359	0.02744	0.32072	-0.04976	3P 1.61428	0.00010	0.07120		
3S 4.02510	-0.00248	-0.00584	0.76331	-0.12921					
4S 3.28393	0.00083	0.00173	0.12482	0.00688					
4S 1.68870	-0.00017	-0.00017	0.00435	0.30352					
4S 0.90349	0.00007	0.00006	-0.00111	0.55104					
4S 0.44948	-0.00002	-0.00002	0.00033	0.36120					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(2)3D(6), ^{5}D
T.E.=-0.11497276E 04 P.E.=-0.22994407E 04 K.E.= 0.11497130E 04 V.T.=-0.20000126E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-240.18542	-28.74046	-3.45335	-0.01778	BASIS/ORB E	-24.44742	-2.13067	BASIS/ORB E	-0.21355
1S 24.60960	0.95313	-0.30382	0.11249	-0.01587	2P 9.58940	0.85705	-0.33980	3D 3.53372	0.31622
1S 37.60670	0.02706	0.00055	-0.00102	0.00035	2P 16.26990	0.14813	-0.04256	3D 11.17720	0.02669
2S 21.11770	0.02485	-0.16251	0.06237	-0.00798	3P 6.08000	0.01850	-0.16553	3D 5.61570	0.26818
2S 10.66850	0.00559	0.96990	-0.37977	0.05114	3P 5.28000	0.01164	0.69124	3D 2.11562	0.43659
3S 9.75659	-0.00369	0.19202	-0.23929	0.03970	3P 3.43000	-0.00909	0.41382	3D 1.05601	0.15609
3S 5.73348	0.00269	0.02112	0.46409	-0.08034	3P 2.60000	0.00406	0.17875		
3S 4.14800	-0.00237	-0.00713	0.59482	-0.09163					
4S 3.65000	0.00084	0.00238	0.15613	-0.00946					
4S 1.81690	-0.00011	-0.00016	0.00632	0.30546					
4S 0.94167	0.00004	0.00006	-0.00158	0.56437					
4S 0.46670	-0.00001	-0.00002	0.00048	0.35500					

*IRON K(2)L(8)3S(2)3P(6)4S(2)3D(7), ^{4}F
T.E.=-0.12623657E 04 P.E.=-0.25247218E 04 K.E.= 0.12623560E 04 V.T.=-0.20000076E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-260.99734	-31.53787	-3.78210	-0.01849	BASIS/ORB E	-27.02015	-2.36998	BASIS/ORB E	-0.23025
1S 25.87820	0.95055	-0.31123	0.11569	-0.01609	2P 10.09080	0.85985	0.34628	3D 2.65000	0.43340
1S 38.73300	0.02054	0.00638	-0.00299	0.00065	2P 17.02370	0.14309	0.04066	3D 11.50000	0.02764
2S 21.33300	0.04065	-0.18072	0.07178	-0.00896	3P 6.07960	0.04421	0.24367	3D 6.09290	0.24144
2S 11.01230	-0.00494	1.04045	-0.41687	0.05494	3P 5.46805	-0.01633	-0.83636	3D 4.16000	0.23945
3S 9.50024	0.00638	0.14508	-0.31096	0.05400	3P 3.32897	-0.00333	-0.45478	3D 1.37669	0.25609
3S 6.99020	-0.00532	0.00138	0.37788	-0.06853	3P 2.55178	0.00221	-0.07262		
3S 4.67090	0.00255	0.00433	0.73551	-0.11125					
4S 3.92345	-0.00085	-0.00034	0.20282	-0.01984					
4S 1.92680	0.00013	0.00007	0.00836	0.29883					
4S 0.97817	-0.00005	-0.00002	-0.00218	0.57819					
4S 0.47310	0.00001	0.00001	0.00066	0.35662					

*COBALT K(2)L(8)3S(2)3P(6)4S(2)3D(8), ^{3}F
T.E.=-0.13813487E 04 P.E.=-0.27626874E 04 K.E.= 0.13813387E 04 V.T.=-0.20000073E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-282.67457	-34.45426	-4.12099	-0.01939	BASIS/ORB E	-29.71034	-2.61805	BASIS/ORB E	-0.24902
1S 26.82720	0.95651	-0.31021	0.11688	-0.01548	2P 11.11190	0.89058	-0.35251	3D 2.33789	0.49292
1S 41.36000	0.01824	0.00422	-0.00262	0.00028	2P 19.95740	0.07682	-0.02026	3D 12.07030	0.03074
2S 22.00000	0.03556	-0.19746	0.07618	-0.01058	3P 7.16122	0.11035	-0.13402	3D 6.56390	0.18767
2S 12.16050	-0.00307	0.94455	-0.37352	0.05097	3P 5.67893	-0.05554	0.72238	3D 4.52420	0.37024
3S 10.54700	0.00282	0.27319	-0.29638	0.04156	3P 3.47914	0.01574	0.43572	3D 1.09462	0.12386
3S 6.28224	-0.00435	-0.02558	0.62256	-0.06724	3P 2.70842	-0.00564	0.07795		
3S 5.20835	0.00391	0.03109	0.21304	-0.07766					
4S 4.55000	-0.00084	-0.00615	0.42073	-0.03235					
4S 2.01586	0.00006	0.00056	0.01490	0.28050					
4S 1.05393	-0.00003	-0.00023	-0.00449	0.55388					
4S 0.51285	0.00001	0.00007	0.00135	0.39405					

TABLE 02- 10

*NICKEL K(2)L(8)3S(2)3P(6)4S(1)3D(10), 2S
T.E.=-0.15068158E 04 P.E.=-0.30136471E 04 K.E.= 0.15068315E 04 V.T.=-0.19999895E 01

S	1S	2S	3S	4S
BASIS/ORB E	-305.20279	-37.48034	-4.46263	-0.01802
1S 27.78100	0.95286	-0.31398	0.11861	-0.01389
1S 40.98670	0.02299	0.00534	-0.00294	-0.00060
2S 22.66670	0.03502	-0.20541	0.08151	-0.01436
2S 12.65000	-0.00462	0.96678	-0.38917	0.05897
3S 10.71570	0.00454	0.27427	-0.31954	0.02631
3S 6.77220	-0.00697	-0.06390	0.60999	0.02480
3S 5.51882	0.00599	0.05928	0.23947	-0.19068
4S 4.80234	-0.00136	-0.01204	0.43812	0.01428
4S 2.13400	0.00015	0.00136	0.02053	0.18027
4S 1.36272	-0.00008	-0.00070	-0.00813	0.43776
4S 0.65772	0.00002	0.00016	0.00167	0.57279

P	2P	3P
BASIS/ORB E	-32.50853	-2.86769
2P 11.34410	0.77060	-0.27908
2P 18.00300	0.15814	-0.05975
3P 11.35750	0.08351	-0.09638
3P 6.30257	0.03094	0.50178
3P 4.13333	-0.01475	0.38196
3P 3.32861	0.00704	0.27255

D	3D
BASIS/ORB E	-0.26344
3D 2.40323	0.47493
3D 12.67910	0.03049
3D 6.87180	0.20785
3D 4.63000	0.37847
3D 1.13064	0.11400

*COPPER K(2)L(8)3S(2)3P(6)4S(2)3D(10), 1S
T.E.=-0.16389623E 04 P.E.=-0.32779396E 04 K.E.= 0.16389772E 04 V.T.=-0.19999909E 01

S	1S	2S	3S	4S
BASIS/ORB E	-328.59605	-40.62337	-4.81582	-0.02031
1S 28.74260	0.95369	-0.31974	0.12161	-0.01469
1S 42.11330	0.02396	0.00758	-0.00398	-0.00003
2S 23.33300	0.03286	-0.20573	0.08124	-0.01248
2S 13.14530	-0.00468	0.96833	-0.38915	0.05443
3S 11.41790	0.00402	0.25736	-0.29604	0.03239
3S 6.66320	-0.00867	-0.02094	0.87307	-0.01477
3S 5.83970	0.00813	0.02745	-0.09099	-0.13158
4S 5.03278	-0.00125	-0.00379	0.48424	-0.01288
4S 2.14219	0.00009	0.00035	0.01630	0.26578
4S 1.15760	-0.00004	-0.00015	-0.00538	0.52421
4S 0.55896	0.00001	0.00005	0.00154	0.43598

P	2P	3P
BASIS/ORB E	-35.42212	-3.12805
2P 12.11030	0.74690	-0.25451
2P 19.00000	0.14460	-0.06111
3P 12.18720	0.11297	-0.13748
3P 7.48146	0.03785	0.31550
3P 4.62620	-0.00563	0.71488
3P 2.84094	0.00182	0.14392

D	3D
BASIS/ORB E	-0.29408
3D 4.73170	0.30474
3D 13.00000	0.02662
3D 7.34375	0.23842
3D 3.06659	0.37446
3D 1.62434	0.25445

*GALLIUM K(2)L(8)M(18)4S(2)4P(2), 3P
T.E.=-0.19232596E 04 P.E.=-0.38465098E 04 K.E.= 0.19232502E 04 V.T.=-0.20000049E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-378.62418	-47.97452	-6.20041	-0.23899	BASIS/ORB E	-42.30046	-4.28883	-0.01775	BASIS/ORB E	-0.99960
1S 29.70500	0.75474	-0.32378	0.12286	-0.03268	2P 12.40390	0.89801	-0.35666	0.04423	3D 3.55688	0.42892
1S 35.32440	0.22664	-0.00096	0.00085	0.00379	2P 20.75280	0.12510	-0.04320	0.00575	3D 2.10988	0.15640
2S 26.00000	0.02776	-0.15987	0.06800	-0.01235	3P 12.04050	-0.03101	-0.05762	0.01073	3D 5.69246	0.32407
2S 13.15000	-0.00462	1.06182	-0.44230	0.09470	3P 7.71830	0.04046	0.38420	-0.05947	3D 8.31071	0.21422
3S 12.43000	0.00402	0.09894	-0.22348	0.06715	3P 4.89148	-0.01062	0.71865	-0.09392	3D 14.24930	0.02759
3S 7.52398	-0.00173	0.02571	0.52455	-0.15784	4P 3.51840	0.00407	0.07344	0.00853		
3S 4.95872	0.00071	-0.00463	0.69851	-0.16135	4P 2.07270	-0.00146	-0.00178	0.29229		
4S 2.60490	-0.00019	0.00119	0.01096	0.44055	4P 1.09746	0.00048	0.00092	0.55878		
4S 1.54897	0.00012	-0.00074	-0.00347	0.56856	4P 0.52631	-0.00014	-0.00019	0.37191		
4S 0.90275	-0.00004	0.00026	0.00105	0.13763						

*GALLIUM K(2)L(8)M(18)4S(2)4P(2), 1D
T.E.=-0.19232383E 04 P.E.=-0.38464718E 04 K.E.= 0.19232333E 04 V.T.=-0.20000026E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-378.65175	-48.00196	-6.22794	-0.26153	BASIS/ORB E	-42.32781	-4.31612	-0.00339	BASIS/ORB E	-1.02698
1S 29.70500	0.75479	-0.32381	0.12291	-0.03344	2P 12.40390	0.89782	-0.35672	0.04371	3D 3.55688	0.42998
1S 35.32440	0.22660	-0.00094	0.00081	0.00412	2P 20.75280	0.12516	-0.04318	0.00494	3D 2.10790	0.15566
2S 26.00000	0.02774	-0.15987	0.06797	-0.01229	3P 12.04050	-0.03072	-0.05749	0.00711	3D 5.69246	0.32343
2S 13.15000	-0.00460	1.06183	-0.44227	0.09550	3P 7.71830	0.04008	0.38397	-0.05082	3D 8.31071	0.21450
3S 12.43000	0.00401	0.09893	-0.22355	0.06848	3P 4.89148	-0.01022	0.71886	-0.09740	3D 14.24930	0.02756
3S 7.52398	-0.00173	0.02573	0.52468	-0.16057	4P 3.51840	0.00366	0.07316	0.02531		
3S 4.95872	0.00071	-0.00465	0.69841	-0.16243	4P 1.95339	-0.00120	-0.00148	0.30803		
4S 2.60490	-0.00019	0.00123	0.01107	0.44290	4P 1.03933	0.00042	0.00091	0.51525		
4S 1.56556	0.00013	-0.00078	-0.00363	0.56557	4P 0.46656	-0.00011	-0.00012	0.42583		
4S 0.92603	-0.00005	0.00028	0.00109	0.13346						

TABLE 02- 12

*GERMANIUM K(2)L(8)M(18)4S(2)4P(3), 4S
T.E.=-0.20753939E 04 P.E.=-0.41507831E 04 K.E.= 0.20753891E 04 V.T.=-0.20000023E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-404.99085	-51.89751	-6.93768	-0.31936	BASIS/ORB E	-45.98371	-4.90925	-0.05901	BASIS/ORB E	-1.38225
1S 30.75400	0.75838	-0.31624	0.11538	-0.03131	2P 13.20000	0.85876	-0.34854	0.06045	3D 3.79046	0.44634
1S 36.38020	0.22235	-0.00675	0.00767	0.00035	2P 21.57860	0.11782	-0.04018	0.00647	3D 2.26471	0.11731
2S 26.68990	0.02887	-0.17448	0.07857	-0.01782	3P 12.74000	0.02103	-0.06997	0.01225	3D 6.04557	0.33386
2S 13.96520	-0.00511	1.02722	-0.43978	0.10638	3P 8.03049	0.03875	0.35951	-0.06766	3D 8.75770	0.21136
3S 12.73000	0.00423	0.15576	-0.24787	0.07623	3P 5.20522	-0.01028	0.73468	-0.14261	3D 14.75000	0.02820
3S 7.80637	-0.00206	0.01647	0.53150	-0.16891	4P 3.70000	0.00374	0.07673	0.03573		
3S 5.21033	0.00089	-0.00156	0.69842	-0.19011	4P 2.14000	-0.00157	-0.00655	0.41400		
4S 2.84228	-0.00026	0.00045	0.01053	0.45279	4P 1.24797	0.00074	0.00322	0.48432		
4S 1.75924	0.00017	-0.00029	-0.00325	0.53737	4P 0.73271	-0.00025	-0.00107	0.24659		
4S 1.08497	-0.00006	0.00009	0.00103	0.15599						

*GERMANIUM K(2)L(8)M(18)4S(2)4P(3), 2D
T.E.=-0.20753469E 04 P.E.=-0.41506881E 04 K.E.= 0.20753411E 04 V.T.=-0.20000027E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-405.01658	-51.92289	-6.96295	-0.33766	BASIS/ORB E	-46.00903	-4.93427	-0.03630	BASIS/ORB E	-1.40740
1S 30.75400	0.75835	-0.31626	0.11541	-0.03203	2P 13.20000	0.85868	-0.34861	0.05867	3D 3.80699	0.44083
1S 36.38020	0.22237	-0.00674	0.00765	0.00071	2P 21.57860	0.11784	-0.04014	0.00654	3D 2.30608	0.12317
2S 26.68990	0.02888	-0.17447	0.07857	-0.01771	3P 12.74000	0.02114	-0.06979	0.01306	3D 6.04557	0.33297
2S 13.96520	-0.00512	1.02722	-0.43978	0.10687	3P 8.03049	0.03860	0.35919	-0.06826	3D 8.75770	0.21141
3S 12.73000	0.00423	0.15576	-0.24789	0.07751	3P 5.20522	-0.01012	0.73493	-0.13736	3D 14.75000	0.02822
3S 7.80637	-0.00207	0.01646	0.53155	-0.17140	4P 3.70000	0.00359	0.07641	0.03093		
3S 5.21033	0.00089	-0.00156	0.69841	-0.19064	4P 2.14639	-0.00137	-0.00568	0.42074		
4S 2.84228	-0.00026	0.00045	0.01051	0.45403	4P 1.18810	0.00054	0.00270	0.50873		
4S 1.76771	0.00017	-0.00028	-0.00322	0.54500	4P 0.63911	-0.00017	-0.00069	0.24621		
4S 1.06877	-0.00006	0.00009	0.00098	0.14598						

*GERMANIUM K(2)L(8)M(18)4S(2)4P(3), 2P
T.E.=-0.20753171E 04 P.E.=-0.41506296E 04 K.E.= 0.20753124E 04 V.T.=-0.20000023E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-405.03549	-51.94160	-6.98160	-0.35168	BASIS/ORB E	-46.02769	-4.95275	-0.02369	BASIS/ORB E	-1.42594
1S 30.75400	0.75843	-0.31626	0.11529	-0.03083	2P 13.20000	0.85870	-0.34855	0.05899	3D 3.78630	0.44428
1S 36.38020	0.22231	-0.00674	0.00775	-0.00037	2P 21.57860	0.11784	-0.04015	0.00607	3D 2.28185	0.11749
2S 26.68990	0.02884	-0.17447	0.07863	-0.01860	3P 12.74000	0.02111	-0.06985	0.01091	3D 6.04557	0.33576
2S 13.96520	-0.00508	1.02722	-0.43988	0.10873	3P 8.03049	0.03864	0.35927	-0.06378	3D 8.75770	0.21079
3S 12.73000	0.00420	0.15577	-0.24775	0.07607	3P 5.20522	-0.01017	0.73475	-0.14004	3D 14.75000	0.02828
3S 7.80637	-0.00204	0.01644	0.53138	-0.16926	4P 3.70000	0.00364	0.07663	0.03667		
3S 5.21033	0.00087	-0.00154	0.69858	-0.19538	4P 2.16247	-0.00140	-0.00574	0.39117		
4S 2.84228	-0.00023	0.00042	0.01021	0.47019	4P 1.21703	0.00053	0.00274	0.50704		
4S 1.72658	0.00015	-0.00024	-0.00289	0.56729	4P 0.60700	-0.00015	-0.00047	0.29550		
4S 1.00018	-0.00005	0.00008	0.00087	0.10841						

*ARSENIC K(2)L(8)M(18)4S(2)4P(4), 3P
T.E.=-0.22342223E 04 P.E.=-0.44684391E 04 K.E.= 0.22342169E 04 V.T.=-0.20000023E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.32161	-56.04563	-7.76462	-0.43835	BASIS/ORB E	-49.88989	-5.61648	-0.07328	BASIS/ORB E	-1.84833
1S 31.04000	0.78156	-0.35008	0.13399	-0.03418	2P 14.19280	0.79921	-0.32799	0.06824	3D 4.21586	0.46894
1S 38.23270	0.21783	0.00973	-0.00205	-0.00069	2P 22.35000	0.11071	-0.03830	0.00631	3D 2.55385	0.11768
2S 26.01070	0.00395	-0.18787	0.08522	-0.02444	3P 13.40000	0.09674	-0.10016	0.01636	3D 6.49000	0.28268
2S 15.09690	0.00074	0.98813	-0.42713	0.11728	3P 8.29532	0.03535	0.35923	-0.06878	3D 9.00292	0.22605
3S 13.32530	0.00040	0.23861	-0.28131	0.08363	3P 5.52393	-0.01035	0.71654	-0.17946	3D 15.25000	0.03003
3S 8.06000	-0.00049	0.00971	0.52564	-0.16524	4P 4.30000	0.00362	0.08842	0.03733		
3S 5.47765	0.00023	0.00075	0.70102	-0.23192	4P 2.40198	-0.00109	0.00067	0.43067		
4S 3.11807	-0.00007	-0.00019	0.01020	0.46880	4P 1.45724	0.00050	0.00079	0.46134		
4S 1.92722	0.00005	0.00013	-0.00256	0.55487	4P 0.83889	-0.00015	-0.00009	0.25752		
4S 1.20854	-0.00002	-0.00006	0.00089	0.12780						

*ARSENIC K(2)L(8)M(18)4S(2)4P(4), 1D
T.E.=-0.22341853E 04 P.E.=-0.44683644E 04 K.E.= 0.22341791E 04 V.T.=-0.20000027E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.33631	-56.06007	-7.77891	-0.44831	BASIS/ORB E	-49.90432	-5.63065	-0.06089	BASIS/ORB E	-1.86257
1S 31.04000	0.78153	-0.35010	0.13404	-0.03745	2P 14.19280	0.79918	-0.32799	0.06686	3D 4.20852	0.46856
1S 38.23270	0.21785	0.00974	-0.00210	0.00165	2P 22.35000	0.11072	-0.03828	0.00667	3D 2.55385	0.11652
2S 26.01070	0.00396	-0.18786	0.08518	-0.02171	3P 13.40000	0.09679	-0.10011	0.01819	3D 6.49000	0.28459
2S 15.09690	0.00073	0.98812	-0.42707	0.11325	3P 8.29532	0.03526	0.35910	-0.07277	3D 9.00292	0.22548
3S 13.32530	0.00042	0.23862	-0.28142	0.09015	3P 5.52393	-0.01023	0.71655	-0.17233	3D 15.25000	0.03009
3S 8.06000	-0.00051	0.00969	0.52582	-0.17685	4P 4.30000	0.00353	0.08835	0.02855		
3S 5.47765	0.00024	0.00077	0.70086	-0.22019	4P 2.41448	-0.00096	0.00103	0.44697		
4S 3.11807	-0.00008	-0.00021	0.01048	0.43399	4P 1.38348	0.00038	0.00095	0.49914		
4S 2.01670	0.00006	0.00015	-0.00274	0.55383	4P 0.75320	-0.00012	0.00004	0.22185		
4S 1.21797	-0.00002	-0.00006	0.00082	0.16062						

*ARSENIC K(2)L(8)M(18)4S(2)4P(4), 1S
T.E.=-0.22341310E 04 P.E.=-0.44682474E 04 K.E.= 0.22341163E 04 V.T.=-0.20000065E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.35687	-56.08022	-7.79873	-0.46207	BASIS/ORB E	-49.92444	-5.65025	-0.04235	BASIS/ORB E	-1.88229
1S 31.04000	0.78153	-0.35010	0.13405	-0.03588	2P 14.19280	0.79921	-0.32792	0.06561	3D 4.23708	0.46436
1S 38.23270	0.21785	0.00974	-0.00210	0.00035	2P 22.35000	0.11071	-0.03828	0.00694	3D 2.59631	0.12367
2S 26.01070	0.00396	-0.18787	0.08517	-0.02339	3P 13.40000	0.09673	-0.10011	0.01955	3D 6.49000	0.28039
2S 15.09690	0.00072	0.98813	-0.42707	0.11628	3P 8.29532	0.03535	0.35908	-0.07568	3D 9.00292	0.22653
3S 13.32530	0.00042	0.23862	-0.28144	0.08718	3P 5.52393	-0.01034	0.71636	-0.16625	3D 15.25000	0.03001
3S 8.06000	-0.00051	0.00968	0.52589	-0.17179	4P 4.30000	0.00362	0.08843	0.02080		
3S 5.47765	0.00024	0.00077	0.70081	-0.22804	4P 2.45459	-0.00102	0.00126	0.43197		
4S 3.11807	-0.00009	-0.00022	0.01051	0.45375	4P 1.41116	0.00039	0.00134	0.47977		
4S 2.00050	0.00006	0.00016	-0.00293	0.53112	4P 0.76975	-0.00012	0.00027	0.27036		
4S 1.27471	-0.00002	-0.00007	0.00097	0.16306						

*SELENIUM K(2)L(8)M(18)4S(2)4P(5), 2P
T.E.=-0.23999041E 04 P.E.=-0.47998133E 04 K.E.= 0.23999093E 04 V.T.=-0.19999977E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-460.56462	-60.36660	-8.62953	-0.55980	BASIS/ORB E	-53.96700	-6.35991	-0.10134	BASIS/ORB E	-2.34780
1S 32.72190	0.84863	-0.35909	-0.13582	-0.03909	2P 14.59520	0.80921	-0.33058	0.07602	3D 4.61424	0.47591
1S 40.36390	0.14204	0.02383	0.00534	0.00186	2P 23.23490	0.10914	-0.04033	0.00783	3D 2.86542	0.12288
2S 26.88000	0.01613	-0.19519	-0.09299	-0.02628	3P 14.46870	0.07904	-0.09393	0.01884	3D 7.05692	0.29351
2S 15.29700	-0.00276	1.03273	0.45992	0.13120	3P 8.60000	0.04982	0.34536	-0.07816	3D 9.67514	0.19451
3S 13.48000	0.00235	0.18997	0.26665	0.09036	3P 5.76931	-0.01941	0.73409	-0.20138	3D 15.75000	0.02915
3S 8.33000	-0.00141	0.01056	-0.55318	-0.19338	4P 4.52461	0.00722	0.07319	0.03487		
3S 5.69057	0.00067	-0.00020	-0.68693	-0.23782	4P 2.62861	-0.00233	0.00341	0.47748		
4S 3.29607	-0.00023	0.00009	-0.00529	0.47514	4P 1.54224	0.00098	-0.00010	0.48306		
4S 2.19144	0.00017	-0.00007	-0.00022	0.49112	4P 0.88248	-0.00030	0.00037	0.18906		
4S 1.42920	-0.00006	0.00001	-0.00001	0.18401						

*BROMINE K(2)L(8)M(18)4S(2)4P(6), 1S
T.E.=-0.25725354E 04 P.E.=-0.51450766E 04 K.E.= 0.25725412E 04 V.T.=-0.19999977E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-489.71994	-64.86064	-9.53258	-0.68546	BASIS/ORB E	-58.21530	-7.14000	-0.13890	BASIS/ORB E	-2.88165
1S 33.78930	0.83793	-0.39729	-0.15216	-0.04323	2P 15.62390	0.74089	-0.30938	0.07919	3D 4.77855	0.46942
1S 40.87220	0.15088	0.05367	0.01699	0.00339	2P 23.84370	0.10969	-0.04013	0.00756	3D 2.99583	0.09291
2S 26.22760	0.02185	-0.22828	-0.11298	-0.03669	3P 15.09530	0.15523	-0.11959	0.02377	3D 7.27608	0.32000
2S 16.06790	-0.00815	1.06691	0.48874	0.15175	3P 8.54200	0.05319	0.42277	-0.09225	3D 10.07920	0.19606
3S 13.63000	0.00530	0.20468	0.28424	0.09315	3P 5.83305	-0.02997	0.66552	-0.23203	3D 16.25000	0.02992
3S 8.68515	-0.00314	0.00146	-0.56626	-0.18967	4P 5.12195	0.01224	0.05344	0.06207		
3S 5.95000	0.00148	0.00268	-0.69240	-0.27923	4P 2.79386	-0.00243	0.01003	0.52231		
4S 3.60787	-0.00048	-0.00062	-0.00292	0.46557	4P 1.67263	0.00117	-0.00332	0.43069		
4S 2.35564	0.00031	0.00034	-0.00208	0.54446	4P 1.03367	-0.00040	0.00113	0.18452		
4S 1.50530	-0.00010	-0.00012	0.00045	0.15355						

TABLE 03- 01

*HELIUM 1S(2),1S
T.E.=-0.28616785E 01
P.E.=-0.57233599E 01
K.E.= 0.28616814E 01
V.T.=-0.19999988E 01

	S
BASIS/ORB E	1S
1S 1.45320	-0.91795
1S 2.77090	0.83044
1S 4.10000	0.17982
1S 0.59480	0.01119
	0.00377

*LITHIUM 1S(2),1S
T.E.=-0.72364135E 01
P.E.=-0.14473026E 02
K.E.= 0.72366123E 01
V.T.=-0.19999725E 01

	S
BASIS/ORB E	1S
1S 2.45161	-2.79234
1S 4.38942	0.88188
1S 6.03853	0.12078
1S 1.26508	0.00930
	0.00322

*BERYLLIUM 1S(2),1S
T.E.=-0.13611256E 02
P.E.=-0.27224500E 02
K.E.= 0.13613245E 02
V.T.=-0.19998538E 01

	S
BASIS/ORB E	1S
1S 3.42034	-5.66689
1S 4.82750	0.84272
1S 8.32668	0.13944
1S 1.83148	0.02238
	0.00663

*BORON 1S(2),1S
T.E.=-0.21986189E 02
P.E.=-0.43974566E 02
K.E.= 0.21988376E 02
V.T.=-0.19999004E 01

	S
BASIS/ORB E	1S
1S 4.40720	-9.54177
1S 5.99281	0.85576
1S 10.42220	0.12834
1S 2.45924	0.01917
	0.00541

*CARBON 1S(2),1S
T.E.=-0.32361154E 02
P.E.=-0.64724539E 02
K.E.= 0.32363386E 02
V.T.=-0.19999310E 01

	S
BASIS/ORB E	1S
1S 5.39609	-14.41671
1S 7.23874	0.87192
1S 12.47670	0.11487
1S 3.09290	0.01643
	0.00386

*NITROGEN 1S(2),1S
T.E.=-0.44736132E 02
P.E.=-0.89474506E 02
K.E.= 0.44738373E 02
V.T.=-0.19999498E 01

	S
BASIS/ORB E	1S
1S 6.38688	-20.29168
1S 8.56040	0.88848
1S 14.49340	0.10096
1S 3.73216	0.01418
	0.00236

*OXYGEN 1S(2),1S
T.E.=-0.59111119E 02
P.E.=-0.11822426E 03
K.E.= 0.59113154E 02
V.T.=-0.19999655E 01

	S
BASIS/ORB E	1S
1S 7.37946	-27.16667
1S 9.95289	0.90382
1S 16.47540	0.08800
1S 4.37672	0.01231
	0.00103

*FLUORINE 1S(2),1S
T.E.=-0.75486109E 02
P.E.=-0.15097401E 03
K.E.= 0.75487901E 02
V.T.=-0.19999763E 01

	S
BASIS/ORB E	1S
1S 8.37371	-35.04166
1S 11.41130	0.91723
1S 18.42590	0.07664
1S 5.02630	0.01073
	-0.00007

*NEON 1S(2),1S
T.E.=-0.93861102E 02
P.E.=-0.18772367E 03
K.E.= 0.93862561E 02
V.T.=-0.19999844E 01

	S
BASIS/ORB E	1S
1S 9.36949	-43.91666
1S 12.93070	0.92862
1S 20.34780	0.06697
1S 5.68059	0.00938
	-0.00095

*SODIUM 1S(2),1S
T.E.=-0.11423609E 03
P.E.=-0.22847322E 03
K.E.= 0.11423712E 03
V.T.=-0.19999909E 01

	S
BASIS/ORB E	1S
1S 10.36670	-53.79166
1S 14.50630	0.93817
1S 22.24430	0.05886
1S 6.33930	0.00820
	-0.00161

*MAGNESIUM 1S(2),1S
T.E.=-0.13661109E 03
P.E.=-0.27322259E 03
K.E.= 0.13661150E 03
V.T.=-0.19999970E 01

	S
BASIS/ORB E	1S
1S 11.36520	-64.66666
1S 16.13370	0.94613
1S 24.11850	0.05208
1S 7.00213	0.00717
	-0.00209

*ALUMINUM 1S(2),1S
T.E.=-0.16098609E 03
P.E.=-0.32197221E 03
K.E.= 0.16098613E 03
V.T.=-0.19999997E 01

	S
BASIS/ORB E	1S
1S 12.36490	-76.54166
1S 17.80620	0.95274
1S 25.97340	0.04643
1S 7.66882	0.00626
	-0.00240

*SILICON 1S(2),1S
T.E.=-0.18736108E 03
P.E.=-0.37472117E 03
K.E.= 0.18736009E 03
V.T.=-0.20000052E 01

	S
BASIS/ORB E	1S
1S 13.36560	-89.41667
1S 19.52070	0.95823
1S 27.81190	0.04170
1S 8.33903	0.00544
	-0.00258

*PHOSPHORUS 1S(2),1S
T.E.=-0.21573607E 03
P.E.=-0.43147114E 03
K.E.= 0.21573506E 03
V.T.=-0.20000046E 01

	S
BASIS/ORB E	1S
1S 14.36720	-103.29166
1S 21.27180	0.96283
1S 29.63720	0.03772
1S 9.01249	0.00471
	-0.00266

*SULFUR 1S(2),1S
T.E.=-0.24611106E 03
P.E.=-0.49222036E 03
K.E.= 0.24610930E 03
V.T.=-0.20000070E 01

	S
BASIS/ORB E	1S
1S 15.36970	-118.16666
1S 23.05450	0.96670
1S 31.45220	0.03432
1S 9.68891	0.00406
	-0.00265

*CHLORINE 1S(2),1S
T.E.=-0.27848605E 03
P.E.=-0.55697327E 03
K.E.= 0.27848721E 03
V.T.=-0.19999958E 01

	S
BASIS/ORB E	1S
1S 16.37280	-134.04162
1S 24.86310	0.96995
1S 33.25980	0.03143
1S 10.36800	0.00347
	-0.00257

*ARGON 1S(2),1S
T.E.=-0.31286106E 03
P.E.=-0.62572070E 03
K.E.= 0.31285963E 03
V.T.=-0.20000046E 01

	S
BASIS/ORB E	1S
1S 17.37650	-150.91665
1S 26.69510	0.97273
1S 35.06300	0.02893
1S 11.04940	0.00294
	-0.00245

*POTASSIUM 1S(2),1S
T.E.=-0.34923606E 03
P.E.=-0.69846998E 03
K.E.= 0.34923392E 03
V.T.=-0.20000061E 01

	S
BASIS/ORB E	1S
1S 18.38060	-168.79165
1S 28.54320	0.97507
1S 36.86470	0.02677
1S 11.73290	0.00247
	-0.00229

*CALCIUM 1S(2),1S
T.E.=-0.38761105E 03
P.E.=-0.77521991E 03
K.E.= 0.38760885E 03
V.T.=-0.20000056E 01

	S
BASIS/ORB E	1S
1S 19.38510	-187.66664
1S 30.40330	0.97707
1S 38.66780	0.02489
1S 12.41820	0.00205
	-0.00209

*SCANDIUM 1S(2),1S
T.E.=-0.42798603E 03
P.E.=-0.85596906E 03
K.E.= 0.42798301E 03
V.T.=-0.20000070E 01

	S
BASIS/ORB E	1S
1S 20.38970	-207.54164
1S 32.27060	0.97880
1S 40.47530	0.02324
1S 13.10500	0.00168
	-0.00189

*TITANIUM 1S(2),1S
T.E.=-0.47036104E 03
P.E.=-0.94072176E 03
K.E.= 0.47036072E 03
V.T.=-0.20000006E 01

	S	1S
BASIS/ORB E	-228.41661	
1S	21.39450	0.98029
1S	34.14010	0.02177
1S	42.28990	0.00137
1S	13.79290	-0.00168

*VANADIUM 1S(2),1S
T.E.=-0.51473605E 03
P.E.=-0.10294700E 04
K.E.= 0.51473404E 03
V.T.=-0.20000038E 01

	S	1S
BASIS/ORB E	-250.29162	
1S	22.39910	0.98157
1S	36.00680	0.02049
1S	44.11460	0.00109
1S	14.48180	-0.00147

*CHROMIUM 1S(2),1S
T.E.=-0.56111106E 03
P.E.=-0.11222201E 04
K.E.= 0.56110907E 03
V.T.=-0.20000035E 01

	S	1S
BASIS/ORB E	-273.16662	
1S	23.40360	0.98269
1S	37.86600	0.01932
1S	45.95210	0.00087
1S	15.17120	-0.00128

*MANGANESE 1S(2),1S
T.E.=-0.60948605E 03
P.E.=-0.12189668E 04
K.E.= 0.60948070E 03
V.T.=-0.20000087E 01

	S	1S
BASIS/ORB E	-297.04163	
1S	24.40780	0.98366
1S	39.71270	0.01828
1S	47.80530	0.00069
1S	15.86100	-0.00110

*IRON 1S(2),1S
T.E.=-0.65986102E 03
P.E.=-0.13197160E 04
K.E.= 0.65985496E 03
V.T.=-0.20000091E 01

	S	1S
BASIS/ORB E	-321.91662	
1S	25.41160	0.98451
1S	41.54210	0.01738
1S	49.67690	0.00054
1S	16.55070	-0.00093

*COBALT 1S(2),1S
T.E.=-0.71223602E 03
P.E.=-0.14244708E 04
K.E.= 0.71223489E 03
V.T.=-0.20000015E 01

	S	1S
BASIS/ORB E	-347.79159	
1S	26.41480	0.98523
1S	43.34940	0.01659
1S	51.56980	0.00040
1S	17.24020	-0.00079

*NICKEL 1S(2),1S
T.E.=-0.76661102E 03
P.E.=-0.15332258E 04
K.E.= 0.76661488E 03
V.T.=-0.19999950E 01

	S	1S
BASIS/ORB E	-374.66656	
1S	27.41740	0.98589
1S	45.12890	0.01586
1S	53.48670	0.00032
1S	17.92910	-0.00069

*COPPER 1S(2),1S
T.E.=-0.82298601E 03
P.E.=-0.16459712E 04
K.E.= 0.82298528E 03
V.T.=-0.20000008E 01

	S	1S
BASIS/ORB E	-402.54158	
1S	28.41910	0.98645
1S	46.87670	0.01526
1S	55.43030	0.00024
1S	18.61710	-0.00061

*ZINC 1S(2),1S
T.E.=-0.88136102E 03
P.E.=-0.17627217E 04
K.E.= 0.88136068E 03
V.T.=-0.20000003E 01

	S	1S
BASIS/ORB E	-431.41657	
1S	29.42000	0.98694
1S	48.58740	0.01473
1S	57.40340	0.00018
1S	19.30400	-0.00057

*GALLIUM 1S(2),1S
T.E.=-0.94173602E 03
P.E.=-0.18834718E 04
K.E.= 0.94173582E 03
V.T.=-0.20000001E 01

	S	1S
BASIS/ORB E	-461.29156	
1S	30.41990	0.98738
1S	50.25630	0.01428
1S	59.40860	0.00014
1S	19.98940	-0.00056

*GERMANIUM 1S(2),1S
T.E.=-0.10041109E 04
P.E.=-0.20082202E 04
K.E.= 0.10041092E 04
V.T.=-0.20000017E 01

	S	1S
BASIS/ORB E	-492.16658	
1S	31.41850	0.98775
1S	51.87830	0.01395
1S	61.44870	0.00009
1S	20.67310	-0.00059

*ARSENIC 1S(2),1S
T.E.=-0.10684860E 04
P.E.=-0.21369708E 04
K.E.= 0.10684846E 04
V.T.=-0.20000012E 01

	S	1S
BASIS/ORB E	-524.04157	
1S	32.41600	0.98807
1S	53.44870	0.01370
1S	63.52620	0.00005
1S	21.35470	-0.00065

*SELENIUM 1S(2),1S
T.E.=-0.11348610E 04
P.E.=-0.22697202E 04
K.E.= 0.11348592E 04
V.T.=-0.20000015E 01

	S	1S
BASIS/ORB E	-556.91657	
1S	33.41200	0.98833
1S	54.96240	0.01354
1S	65.64380	0.00002
1S	22.03400	-0.00076

*BROMINE 1S(2),1S
T.E.=-0.12032360E 04
P.E.=-0.24064694E 04
K.E.= 0.12032335E 04
V.T.=-0.20000020E 01

	S	1S
BASIS/ORB E	-590.79157	
1S	34.40650	0.98854
1S	56.41470	0.01349
1S	67.80420	-0.00003
1S	22.71060	-0.00091

*KRYPTON 1S(2),1S
T.E.=-0.12736110E 04
P.E.=-0.25472161E 04
K.E.= 0.12736051E 04
V.T.=-0.20000046E 01

	S	1S
BASIS/ORB E	-625.66660	
1S	35.39930	0.98869
1S	57.80050	0.01353
1S	70.01000	-0.00007
1S	23.38430	-0.00109

TABLE 03- 03

*HELIUM 1S(2),1S
T.E.=-0.28616785E 01
P.E.=-0.57233599E 01
K.E.= 0.28616814E 01
V.T.=-0.19999988E 01

	S	1S
BASIS/ORB E		-0.91795
1S	1.45320	0.83044
1S	2.77090	0.17982
1S	4.10000	0.01119
1S	0.59480	0.00377

*LITHIUM 1S(2),1S
T.E.=-0.72364135E 01
P.E.=-0.14473026E 02
K.E.= 0.72366123E 01
V.T.=-0.19999725E 01

	S	1S
BASIS/ORB E		-2.79234
1S	2.45161	0.88188
1S	4.38942	0.12078
1S	6.03853	0.00930
1S	1.26508	0.00322

*BERYLLIUM 1S(2),1S
T.E.=-0.13611256E 02
P.E.=-0.27224500E 02
K.E.= 0.13613245E 02
V.T.=-0.19998538E 01

	S	1S
BASIS/ORB E		-5.66689
1S	3.42034	0.84272
1S	4.82750	0.13944
1S	8.32668	0.02238
1S	1.83148	0.00663

*BORON 1S(2),1S
T.E.=-0.21986189E 02
P.E.=-0.43974566E 02
K.E.= 0.21988376E 02
V.T.=-0.19999004E 01

	S	1S
BASIS/ORB E		-9.54177
1S	4.40720	0.85576
1S	5.99281	0.12834
1S	10.42220	0.01917
1S	2.45924	0.00541

*CARBON 1S(2),1S
T.E.=-0.32361154E 02
P.E.=-0.64724539E 02
K.E.= 0.32363386E 02
V.T.=-0.19999310E 01

	S	1S
BASIS/ORB E		-14.41671
1S	5.39609	0.87192
1S	7.23874	0.11487
1S	12.47670	0.01643
1S	3.09290	0.00386

*NITROGEN 1S(2),1S
T.E.=-0.44736132E 02
P.E.=-0.89474506E 02
K.E.= 0.44738373E 02
V.T.=-0.19999498E 01

	S	1S
BASIS/ORB E		-20.29168
1S	6.38688	0.88848
1S	8.56040	0.10096
1S	14.49340	0.01418
1S	3.73216	0.00236

*OXYGEN 1S(2),1S
T.E.=-0.59111119E 02
P.E.=-0.11822426E 03
K.E.= 0.59113154E 02
V.T.=-0.19999655E 01

	S	1S
BASIS/ORB E		-27.16667
1S	7.37946	0.90382
1S	9.95289	0.08800
1S	16.47540	0.01231
1S	4.37672	0.00103

*FLUORINE 1S(2),1S
T.E.=-0.75486109E 02
P.E.=-0.15097401E 03
K.E.= 0.75487901E 02
V.T.=-0.19999763E 01

	S	1S
BASIS/ORB E		-35.04166
1S	8.37371	0.91723
1S	11.41130	0.07664
1S	18.42590	0.01073
1S	5.02630	-0.00007

*NEON 1S(2),1S
T.E.=-0.93861102E 02
P.E.=-0.18772367E 03
K.E.= 0.93862561E 02
V.T.=-0.19999844E 01

	S	1S
BASIS/ORB E		-43.91666
1S	9.36949	0.92862
1S	12.93070	0.06697
1S	20.34780	0.00938
1S	5.68059	-0.00095

*SODIUM 1S(2),1S
T.E.=-0.11423609E 03
P.E.=-0.22847322E 03
K.E.= 0.11423712E 03
V.T.=-0.19999909E 01

	S	1S
BASIS/ORB E		-53.79166
1S	10.36670	0.93817
1S	14.50630	0.05886
1S	22.24430	0.00820
1S	6.33930	-0.00161

*MAGNESIUM 1S(2),1S
T.E.=-0.13661109E 03
P.E.=-0.27322259E 03
K.E.= 0.13661150E 03
V.T.=-0.19999970E 01

	S	1S
BASIS/ORB E		-64.66666
1S	11.36520	0.94613
1S	16.13370	0.05208
1S	24.11850	0.00717
1S	7.00213	-0.00209

*ALUMINUM 1S(2),1S
T.E.=-0.16098609E 03
P.E.=-0.32197221E 03
K.E.= 0.16098613E 03
V.T.=-0.19999997E 01

	S	1S
BASIS/ORB E		-76.54166
1S	12.36490	0.95274
1S	17.80620	0.04643
1S	25.97340	0.00626
1S	7.66882	-0.00240

*SILICON 1S(2),1S
T.E.=-0.18736108E 03
P.E.=-0.37472117E 03
K.E.= 0.18736009E 03
V.T.=-0.20000052E 01

	S	1S
BASIS/ORB E		-89.41667
1S	13.36560	0.95823
1S	19.52070	0.04170
1S	27.81190	0.00544
1S	8.33903	-0.00258

*PHOSPHORUS 1S(2),1S
T.E.=-0.21573607E 03
P.E.=-0.43147114E 03
K.E.= 0.21573506E 03
V.T.=-0.20000046E 01

	S	1S
BASIS/ORB E		-103.29166
1S	14.36720	0.96283
1S	21.27180	0.03772
1S	29.63720	0.00471
1S	9.01249	-0.00266

*SULFUR 1S(2),1S
T.E.=-0.24611106E 03
P.E.=-0.49222036E 03
K.E.= 0.24610930E 03
V.T.=-0.20000070E 01

	S	1S
BASIS/ORB E		-118.16666
1S	15.36970	0.96670
1S	23.05450	0.03432
1S	31.45220	0.00406
1S	9.68891	-0.00265

*CHLORINE 1S(2),1S
T.E.=-0.27848605E 03
P.E.=-0.55697327E 03
K.E.= 0.27848721E 03
V.T.=-0.19999958E 01

	S	1S
BASIS/ORB E		-134.04162
1S	16.37280	0.96995
1S	24.86310	0.03143
1S	33.25980	0.00347
1S	10.36800	-0.00257

*ARGON 1S(2),1S
T.E.=-0.31286106E 03
P.E.=-0.62572070E 03
K.E.= 0.31285963E 03
V.T.=-0.20000046E 01

	S	1S
BASIS/ORB E		-150.91665
1S	17.37650	0.97273
1S	26.69510	0.02893
1S	35.06300	0.00294
1S	11.04940	-0.00245

*POTASSIUM 1S(2),1S
T.E.=-0.34923606E 03
P.E.=-0.69846998E 03
K.E.= 0.34923392E 03
V.T.=-0.20000061E 01

	S	1S
BASIS/ORB E		-168.79165
1S	18.38060	0.97507
1S	28.54320	0.02677
1S	36.86470	0.00247
1S	11.73290	-0.00229

*CALCIUM 1S(2),1S
T.E.=-0.38761105E 03
P.E.=-0.77521991E 03
K.E.= 0.38760885E 03
V.T.=-0.20000056E 01

	S	1S
BASIS/ORB E		-187.66664
1S	19.38510	0.97707
1S	30.40330	0.02489
1S	38.66780	0.00205
1S	12.41820	-0.00209

*SCANDIUM 1S(2),1S
T.E.=-0.42798603E 03
P.E.=-0.85596906E 03
K.E.= 0.42798301E 03
V.T.=-0.20000070E 01

	S	1S
BASIS/ORB E		-207.54164
1S	20.38970	0.97880
1S	32.27060	0.02324
1S	40.47530	0.00168
1S	13.10500	-0.00189

TABLE 03- 04

*TITANIUM 1S(2),1S
T.E.=-0.47036104E 03
P.E.=-0.94072176E 03
K.E.= 0.47036072E 03
V.T.=-0.20000006E 01

	S	1S
BASIS/ORB E		-228.41661
1S	21.39450	0.98029
1S	34.14010	0.02177
1S	42.28990	0.00137
1S	13.79290	-0.00168

*VANADIUM 1S(2),1S
T.E.=-0.51473605E 03
P.E.=-0.10294700E 04
K.E.= 0.51473404E 03
V.T.=-0.20000038E 01

	S	1S
BASIS/ORB E		-250.29162
1S	22.39910	0.98157
1S	36.00680	0.02049
1S	44.11460	0.00109
1S	14.48180	-0.00147

*CHROMIUM 1S(2),1S
T.E.=-0.56111106E 03
P.E.=-0.11222201E 04
K.E.= 0.56110907E 03
V.T.=-0.20000035E 01

	S	1S
BASIS/ORB E		-273.16662
1S	23.40360	0.98269
1S	37.86600	0.01932
1S	45.95210	0.00087
1S	15.17120	-0.00128

*MANGANESE 1S(2),1S
T.E.=-0.60948605E 03
P.E.=-0.12189668E 04
K.E.= 0.60948070E 03
V.T.=-0.20000087E 01

	S	1S
BASIS/ORB E		-297.04163
1S	24.40780	0.98366
1S	39.71270	0.01828
1S	47.80530	0.00069
1S	15.86100	-0.00110

*IRON 1S(2),1S
T.E.=-0.65986102E 03
P.E.=-0.13197160E 04
K.E.= 0.65985496E 03
V.T.=-0.20000091E 01

	S	1S
BASIS/ORB E		-321.91662
1S	25.41160	0.98451
1S	41.54210	0.01738
1S	49.67690	0.00054
1S	16.55070	-0.00093

*COBALT 1S(2),1S
T.E.=-0.71223602E 03
P.E.=-0.14244708E 04
K.E.= 0.71223489E 03
V.T.=-0.20000015E 01

	S	1S
BASIS/ORB E		-347.79159
1S	26.41480	0.98523
1S	43.34940	0.01659
1S	51.56980	0.00040
1S	17.24020	-0.00079

*NICKEL 1S(2),1S
T.E.=-0.76661102E 03
P.E.=-0.15332258E 04
K.E.= 0.76661488E 03
V.T.=-0.19999950E 01

	S	1S
BASIS/ORB E		-374.66656
1S	27.41740	0.98589
1S	45.12890	0.01586
1S	53.48670	0.00032
1S	17.92910	-0.00069

*COPPER 1S(2),1S
T.E.=-0.82298601E 03
P.E.=-0.16459712E 04
K.E.= 0.82298528E 03
V.T.=-0.20000008E 01

	S	1S
BASIS/ORB E		-402.54158
1S	28.41910	0.98645
1S	46.87670	0.01526
1S	55.43030	0.00024
1S	18.61710	-0.00061

*ZINC 1S(2),1S
T.E.=-0.88136102E 03
P.E.=-0.17627217E 04
K.E.= 0.88136068E 03
V.T.=-0.20000003E 01

	S	1S
BASIS/ORB E		-431.41657
1S	29.42000	0.98694
1S	48.58740	0.01473
1S	57.40340	0.00018
1S	19.30400	-0.00057

*GALLIUM 1S(2),1S
T.E.=-0.94173602E 03
P.E.=-0.18834718E 04
K.E.= 0.94173582E 03
V.T.=-0.20000001E 01

	S	1S
BASIS/ORB E		-461.29156
1S	30.41990	0.98738
1S	50.25630	0.01428
1S	59.40860	0.00014
1S	19.98940	-0.00056

*GERMANIUM 1S(2),1S
T.E.=-0.10041109E 04
P.E.=-0.20082202E 04
K.E.= 0.10041092E 04
V.T.=-0.20000017E 01

	S	1S
BASIS/ORB E		-492.16658
1S	31.41850	0.98775
1S	51.87830	0.01395
1S	61.44870	0.00009
1S	20.67310	-0.00059

*ARSENIC 1S(2),1S
T.E.=-0.10684860E 04
P.E.=-0.21369708E 04
K.E.= 0.10684846E 04
V.T.=-0.20000012E 01

	S	1S
BASIS/ORB E		-524.04157
1S	32.41600	0.98807
1S	53.44870	0.01370
1S	63.52620	0.00005
1S	21.35470	-0.00065

*SELENIUM 1S(2),1S
T.E.=-0.11348610E 04
P.E.=-0.22697202E 04
K.E.= 0.11348592E 04
V.T.=-0.20000015E 01

	S	1S
BASIS/ORB E		-556.91657
1S	33.41200	0.98833
1S	54.96240	0.01354
1S	65.64380	0.00002
1S	22.03400	-0.00076

*BROMINE 1S(2),1S
T.E.=-0.12032360E 04
P.E.=-0.24064694E 04
K.E.= 0.12032335E 04
V.T.=-0.20000020E 01

	S	1S
BASIS/ORB E		-590.79157
1S	34.40650	0.98854
1S	56.41470	0.01349
1S	67.80420	-0.00003
1S	22.71060	-0.00091

*KRYPTON 1S(2),1S
T.E.=-0.12736110E 04
P.E.=-0.25472161E 04
K.E.= 0.12736051E 04
V.T.=-0.20000046E 01

	S	1S
BASIS/ORB E		-625.66660
1S	35.39930	0.98869
1S	57.80050	0.01353
1S	70.01000	-0.00007
1S	23.38430	-0.00109

TABLE 04- 01

*LITHIUM 1S(2)2S(1), 3-2S
T.E.=-0.74327258E 01 P.E.=-0.14865442E 02
K.E.= 0.74327170E 01 V.T.=-0.20000011E 01

S	1S	2S
BASIS/ORB E	-2.47775	-0.19632
1S 2.47580	0.89652	-0.14437
1S 4.68780	0.11239	-0.01602
2S 0.75000	-0.00039	0.50009
2S 1.77100	0.00766	-0.07864
2S 0.61830	0.00074	0.56144

*BERYLLIUM 1S(2)2S(1), 3-2S
T.E.=-0.14277329E 02 P.E.=-0.28551064E 02
K.E.= 0.14273734E 02 V.T.=-0.20002518E 01

S	1S	2S
BASIS/ORB E	-5.13859	-0.66614
1S 3.49627	0.94315	-0.21123
1S 6.96969	0.06476	-0.01189
2S 1.29671	0.01560	0.53034
2S 2.50092	-0.00058	-0.15198
2S 1.11089	-0.01070	0.60118

*BORON 1S(2)2S(1), 3-2S
T.E.=-0.23375901E 02 P.E.=-0.46746343E 02
K.E.= 0.23370443E 02 V.T.=-0.20002335E 01

S	1S	2S
BASIS/ORB E	-8.80797	-1.38985
1S 4.51444	0.95876	-0.24742
1S 9.13563	0.04572	-0.00855
2S 1.83765	0.01803	0.52995
2S 3.23960	-0.00007	-0.20604
2S 1.59914	-0.01240	0.65655

*CARBON 1S(2)2S(1), 3-2S
T.E.=-0.34725977E 02 P.E.=-0.69445989E 02
K.E.= 0.34720011E 02 V.T.=-0.20001718E 01

S	1S	2S
BASIS/ORB E	-13.48025	-2.36500
1S 5.53024	0.96563	-0.26965
1S 11.19560	0.03584	-0.00632
2S 2.37318	0.01443	0.53672
2S 3.98649	0.00274	-0.24645
2S 2.08357	-0.00990	0.69131

*NITROGEN 1S(2)2S(1), 3-2S
T.E.=-0.48326782E 02 P.E.=-0.96647795E 02
K.E.= 0.48321011E 02 V.T.=-0.20001193E 01

S	1S	2S
BASIS/ORB E	-19.15388	-3.59086
1S 6.54362	0.96925	-0.28460
1S 13.15940	0.02995	-0.00478
2S 2.90368	0.00918	0.54982
2S 4.74107	0.00573	-0.27674
2S 2.56464	-0.00627	0.70947

*OXYGEN 1S(2)2S(1), 3-2S
T.E.=-0.64177995E 02 P.E.=-0.12835088E 03
K.E.= 0.64172889E 02 V.T.=-0.20000795E 01

S	1S	2S
BASIS/ORB E	-25.82826	-5.06710
1S 7.55455	0.97146	-0.29534
1S 15.03640	0.02613	-0.00367
2S 3.42951	0.00410	0.56627
2S 5.50279	0.00823	-0.29946
2S 3.04283	-0.00276	0.71655

*FLUORINE 1S(2)2S(1), 3-2S
T.E.=-0.82279454E 02 P.E.=-0.16455474E 03
K.E.= 0.82275283E 02 V.T.=-0.20000506E 01

S	1S	2S
BASIS/ORB E	-33.50308	-6.79358
1S 8.56301	0.97297	-0.30342
1S 16.83560	0.02351	-0.00284
2S 3.95101	-0.00015	0.58408
2S 6.27114	0.01006	-0.31649
2S 3.51860	0.00020	0.71647

*NEON 1S(2)2S(1), 3-2S
T.E.=-0.10263108E 03 P.E.=-0.20525893E 03
K.E.= 0.10262784E 03 V.T.=-0.20000314E 01

S	1S	2S
BASIS/ORB E	-42.17820	-8.77023
1S 9.56901	0.97413	-0.30974
1S 18.56580	0.02166	-0.00221
2S 4.46850	-0.00344	0.60224
2S 7.04557	0.01124	-0.32925
2S 3.99235	0.00252	0.71169

*SODIUM 1S(2)2S(1), 3-2S
T.E.=-0.12523281E 03 P.E.=-0.25046355E 03
K.E.= 0.12523074E 03 V.T.=-0.20000166E 01

S	1S	2S
BASIS/ORB E	-51.85351	-10.99699
1S 10.57260	0.97508	-0.31482
1S 20.23540	0.02032	-0.00172
2S 4.98231	-0.00581	0.62001
2S 7.82556	0.01187	-0.33876
2S 4.46452	0.00422	0.70401

*MAGNESIUM 1S(2)2S(1), 3-2S
T.E.=-0.15008464E 03 P.E.=-0.30016819E 03
K.E.= 0.15008356E 03 V.T.=-0.20000070E 01

S	1S	2S
BASIS/ORB E	-62.52897	-13.47382
1S 11.57370	0.97593	-0.31900
1S 21.85240	0.01935	-0.00134
2S 5.49274	-0.00736	0.63706
2S 8.61056	0.01202	-0.34581
2S 4.93548	0.00537	0.69454

TABLE 04- 02

*ALUMINUM 1S(2)2S(1), 3-2S
T.E.=-0.17718650E 03 P.E.=-0.35437286E 03
K.E.= 0.17718635E 03 V.T.=-0.20000008E 01

S	1S	2S
BASIS/ORB E	-74.20455	-16.20072
1S 12.57270	0.97669	-0.32251
1S 23.42420	0.01863	-0.00103
2S 6.00000	-0.00829	0.65341
2S 9.40006	0.01183	-0.35100
2S 5.40550	0.00610	0.68387

*PHOSPHORUS 1S(2)2S(1), 3-2S
T.E.=-0.23814040E 03 P.E.=-0.47628216E 03
K.E.= 0.23814175E 03 V.T.=-0.19999942E 01

S	1S	2S
BASIS/ORB E	-100.55592	-22.40464
1S 14.56370	0.97810	-0.32808
1S 26.46370	0.01775	-0.00060
2S 7.00663	-0.00862	0.68242
2S 10.99040	0.01060	-0.35745
2S 6.34475	0.00648	0.66222

*CHLORINE 1S(2)2S(1), 3-2S
T.E.=-0.30809441E 03 P.E.=-0.61619028E 03
K.E.= 0.30809586E 03 V.T.=-0.19999953E 01

S	1S	2S
BASIS/ORB E	-130.90751	-29.60868
1S 16.54690	0.97942	-0.33233
1S 29.40790	0.01731	-0.00033
2S 8.00403	-0.00760	0.70750
2S 12.59220	0.00872	-0.36061
2S 7.28453	0.00590	0.64114

*POTASSIUM 1S(2)2S(1), 3-2S
T.E.=-0.38704852E 03 P.E.=-0.77409919E 03
K.E.= 0.38705067E 03 V.T.=-0.19999944E 01

S	1S	2S
BASIS/ORB E	-165.25923	-37.81279
1S 18.52330	0.98070	-0.33571
1S 32.30700	0.01711	-0.00016
2S 8.99416	-0.00575	0.72835
2S 14.20130	0.00649	-0.36192
2S 8.22720	0.00467	0.62240

*SCANDIUM 1S(2)2S(1), 3-2S
T.E.=-0.47500268E 03 P.E.=-0.95000834E 03
K.E.= 0.47500566E 03 V.T.=-0.19999936E 01

S	1S	2S
BASIS/ORB E	-203.61106	-47.01696
1S 20.49460	0.98198	-0.33851
1S 35.20550	0.01701	-0.00003
2S 9.97870	-0.00338	0.74520
2S 15.81340	0.00416	-0.36231
2S 9.17471	0.00300	0.60670

*SILICON 1S(2)2S(1), 3-2S
T.E.=-0.20653844E 03 P.E.=-0.41307756E 03
K.E.= 0.20653912E 03 V.T.=-0.19999967E 01

S	1S	2S
BASIS/ORB E	-86.88020	-19.17766
1S 13.56920	0.97741	-0.32550
1S 24.95930	0.01812	-0.00079
2S 6.50463	-0.00865	0.66834
2S 10.19350	0.01131	-0.35477
2S 5.87526	0.00643	0.67318

*SULFUR 1S(2)2S(1), 3-2S
T.E.=-0.27199241E 03 P.E.=-0.54398634E 03
K.E.= 0.27199394E 03 V.T.=-0.19999942E 01

S	1S	2S
BASIS/ORB E	-115.23169	-25.88165
1S 15.55620	0.97877	-0.33034
1S 27.94440	0.01749	-0.00045
2S 7.50635	-0.00823	0.69549
2S 11.79010	0.00971	-0.35933
2S 6.81441	0.00628	0.65147

*ARGON 1S(2)2S(1), 3-2S
T.E.=-0.34644645E 03 P.E.=-0.69289500E 03
K.E.= 0.34644855E 03 V.T.=-0.19999938E 01

S	1S	2S
BASIS/ORB E	-147.58335	-33.58572
1S 17.53570	0.98007	-0.33411
1S 30.86070	0.01719	-0.00024
2S 8.50000	-0.00671	0.71818
2S 13.39610	0.00761	-0.36141
2S 7.75550	0.00531	0.63168

*CALCIUM 1S(2)2S(1), 3-2S
T.E.=-0.42990059E 03 P.E.=-0.85980415E 03
K.E.= 0.42990355E 03 V.T.=-0.19999930E 01

S	1S	2S
BASIS/ORB E	-183.93513	-42.28987
1S 19.50950	0.98134	-0.33717
1S 33.75380	0.01706	-0.00009
2S 9.48703	-0.00458	0.73719
2S 15.00730	0.00532	-0.36217
2S 8.70024	0.00385	0.61420

*TITANIUM 1S(2)2S(1), 3-2S
T.E.=-0.52235477E 03 P.E.=-0.10447053E 04
K.E.= 0.52235055E 03 V.T.=-0.20000080E 01

S	1S	2S
BASIS/ORB E	-224.28705	-51.99407
1S 21.47900	0.98262	-0.33976
1S 36.66700	0.01695	0.00003
2S 10.46930	-0.00207	0.75215
2S 16.61930	0.00300	-0.36234
2S 9.65081	0.00204	0.60016

TABLE 04- 03

*VANADIUM 1S(2)2S(1), 3-2S
T.E.=-0.57195685E 03 P.E.=-0.11439162E 04
K.E.= 0.57195944E 03 V.T.=-0.19999955E 01

S	1S	2S
BASIS/ORB E	-245.96294	-57.22116
1S 22.46280	0.98328	-0.34093
1S 38.14260	0.01688	0.00010
2S 10.95910	-0.00068	0.75818
2S 17.42430	0.00187	-0.36235
2S 10.12870	0.00101	0.59450

*CHROMIUM 1S(2)2S(1), 3-2S
T.E.=-0.62380901E 03 P.E.=-0.12476201E 04
K.E.= 0.62381109E 03 V.T.=-0.19999967E 01

S	1S	2S
BASIS/ORB E	-268.63894	-62.69828
1S 23.44640	0.98393	-0.34204
1S 39.63640	0.01678	0.00018
2S 11.44820	0.00071	0.76318
2S 18.22790	0.00078	-0.36237
2S 10.60860	-0.00005	0.58988

*MANGANESE 1S(2)2S(1), 3-2S
T.E.=-0.67791110E 03 P.E.=-0.13558230E 04
K.E.= 0.67791186E 03 V.T.=-0.19999988E 01

S	1S	2S
BASIS/ORB E	-292.31491	-68.42540
1S 24.43000	0.98460	-0.34310
1S 41.15210	0.01665	0.00027
2S 11.93670	0.00215	0.76745
2S 19.02970	-0.00025	-0.36245
2S 11.09050	-0.00116	0.58604

*IRON 1S(2)2S(1), 3-2S
T.E.=-0.73426321E 03 P.E.=-0.14685302E 04
K.E.= 0.73426704E 03 V.T.=-0.19999947E 01

S	1S	2S
BASIS/ORB E	-316.99088	-74.40253
1S 25.41410	0.98527	-0.34412
1S 42.69300	0.01647	0.00039
2S 12.42480	0.00363	0.77068
2S 19.82890	-0.00122	-0.36260
2S 11.57470	-0.00233	0.58330

*COBALT 1S(2)2S(1), 3-2S
T.E.=-0.79286535E 03 P.E.=-0.15857320E 04
K.E.= 0.79286662E 03 V.T.=-0.19999983E 01

S	1S	2S
BASIS/ORB E	-342.66690	-80.62965
1S 26.39890	0.98594	-0.34512
1S 44.26240	0.01625	0.00053
2S 12.91250	0.00507	0.77291
2S 20.62520	-0.00210	-0.36282
2S 12.06120	-0.00349	0.58163

*NICKEL 1S(2)2S(1), 3-2S
T.E.=-0.85371747E 03 P.E.=-0.17074341E 04
K.E.= 0.85371677E 03 V.T.=-0.20000007E 01

S	1S	2S
BASIS/ORB E	-369.34293	-87.10679
1S 27.38490	0.98661	-0.34609
1S 45.86260	0.01598	0.00068
2S 13.40000	0.00653	0.77462
2S 21.41800	-0.00289	-0.36321
2S 12.55000	-0.00469	0.58063

*COPPER 1S(2)2S(1), 3-2S
T.E.=-0.91681957E 03 P.E.=-0.18336374E 04
K.E.= 0.91681784E 03 V.T.=-0.20000018E 01

S	1S	2S
BASIS/ORB E	-397.01895	-93.83393
1S 28.37230	0.98727	-0.34704
1S 47.49670	0.01566	0.00087
2S 13.88740	0.00795	0.77521
2S 22.20670	-0.00358	-0.36372
2S 13.04140	-0.00588	0.58087

*ZINC 1S(2)2S(1), 3-2S
T.E.=-0.98217177E 03 P.E.=-0.19643410E 04
K.E.= 0.98216932E 03 V.T.=-0.20000024E 01

S	1S	2S
BASIS/ORB E	-425.69498	-100.81109
1S 29.36170	0.98791	-0.34798
1S 49.16610	0.01528	0.00108
2S 14.37470	0.00928	0.77530
2S 22.99090	-0.00414	-0.36443
2S 13.53520	-0.00702	0.58179

*GALLIUM 1S(2)2S(1), 3-2S
T.E.=-0.10497738E 04 P.E.=-0.20995440E 04
K.E.= 0.10497700E 04 V.T.=-0.20000035E 01

S	1S	2S
BASIS/ORB E	-455.37100	-108.03824
1S 30.35350	0.98852	-0.34890
1S 50.87280	0.01485	0.00132
2S 14.86210	0.01049	0.77466
2S 23.76990	-0.00456	-0.36533
2S 14.03150	-0.00808	0.58362

*GERMANIUM 1S(2)2S(1), 3-2S
T.E.=-0.11196259E 04 P.E.=-0.22392412E 04
K.E.= 0.11196151E 04 V.T.=-0.20000096E 01

S	1S	2S
BASIS/ORB E	-486.04707	-115.51540
1S 31.34810	0.98910	-0.34980
1S 52.61820	0.01437	0.00158
2S 15.34940	0.01157	0.77375
2S 24.54330	-0.00484	-0.36646
2S 14.53030	-0.00906	0.58593

TABLE 04- 04

*ARSENIC 1S(2)2S(1), 3-2S
T.E.=-0.11917282E 04 P.E.=-0.23834413E 04
K.E.= 0.11917131E 04 V.T.=-0.20000125E 01

S	1S	2S
BASIS/ORB E	-517.72314	-123.24256
1S 32.34600	0.98964	-0.35070
1S 54.40330	0.01384	0.00188
2S 15.83690	0.01241	0.77191
2S 25.31050	-0.00494	-0.36778
2S 15.03160	-0.00985	0.58934

*BROMINE 1S(2)2S(1), 3-2S
T.E.=-0.13426825E 04 P.E.=-0.26853573E 04
K.E.= 0.13426746E 04 V.T.=-0.20000058E 01

S	1S	2S
BASIS/ORB E	-584.07517	-139.44688
1S 34.35380	0.99053	-0.35242
1S 58.09510	0.01264	0.00253
2S 16.81220	0.01320	0.76806
2S 26.82420	-0.00459	-0.37127
2S 16.04150	-0.01075	0.59710

*SELENIUM 1S(2)2S(1), 3-2S
T.E.=-0.12660804E 04 P.E.=-0.25321510E 04
K.E.= 0.12660707E 04 V.T.=-0.20000076E 01

S	1S	2S
BASIS/ORB E	-550.39915	-131.21971
1S 33.34770	0.99012	-0.35157
1S 56.22880	0.01326	0.00220
2S 16.32450	0.01299	0.76985
2S 26.07100	-0.00487	-0.36937
2S 15.53540	-0.01045	0.59322

*KRYPTON 1S(2)2S(1), 3-2S
T.E.=-0.14215346E 04 P.E.=-0.28430565E 04
K.E.= 0.14215218E 04 V.T.=-0.20000089E 01

S	1S	2S
BASIS/ORB E	-618.75124	-147.92404
1S 35.36460	0.99087	-0.35326
1S 60.00240	0.01198	0.00290
2S 17.30000	0.01277	0.76611
2S 27.56970	-0.00407	-0.37344
2S 16.55000	-0.01050	0.60139

TABLE 05- 01

*BERYLLIUM 1S(2)2S(2), 4-1S
T.E.=-0.14573014E 02 P.E.=-0.29146043E 02
K.E.= 0.14573029E 02 V.T.=-0.19999988E 01

S	1S	2S
BASIS/ORB E	-4.73268	-0.30927
1S 3.52970	0.90203	-0.15586
1S 6.40720	0.08368	-0.01903
2S 1.19560	0.00111	0.52122
2S 3.23410	0.02905	-0.07450
2S 0.81980	-0.00056	0.54592

*BORON 1S(2)2S(2), 4-1S
T.E.=-0.24237555E 02 P.E.=-0.48475721E 02
K.E.= 0.24238163E 02 V.T.=-0.19999748E 01

S	1S	2S
BASIS/ORB E	-8.18587	-0.87386
1S 4.46539	0.91843	-0.20021
1S 7.79908	0.08082	-0.01981
2S 1.61005	0.00027	0.73912
2S 3.95672	0.01110	-0.09969
2S 1.22810	-0.00003	0.34685

*CARBON 1S(2)2S(2), 4-1S
T.E.=-0.36408484E 02 P.E.=-0.72817466E 02
K.E.= 0.36408980E 02 V.T.=-0.19999862E 01

S	1S	2S
BASIS/ORB E	-12.65056	-1.69405
1S 5.42393	0.93181	-0.23221
1S 9.32901	0.07348	-0.01730
2S 2.05374	0.00162	0.86317
2S 4.68904	0.00188	-0.12048
2S 1.67424	-0.00093	0.24404

*NITROGEN 1S(2)2S(2), 4-1S
T.E.=-0.51082309E 02 P.E.=-0.10216483E 03
K.E.= 0.51082529E 02 V.T.=-0.19999956E 01

S	1S	2S
BASIS/ORB E	-18.12008	-2.76673
1S 6.40168	0.94321	-0.25465
1S 10.97060	0.06441	-0.01445
2S 2.52241	0.00405	0.92303
2S 5.43038	-0.00273	-0.14143
2S 2.15095	-0.00273	0.20642

*OXYGEN 1S(2)2S(2), 4-1S
T.E.=-0.68257700E 02 P.E.=-0.13651538E 03
K.E.= 0.68257679E 02 V.T.=-0.20000003E 01

S	1S	2S
BASIS/ORB E	-24.59206	-4.09072
1S 7.39522	0.95243	-0.27071
1S 12.69930	0.05540	-0.01188
2S 3.01208	0.00667	0.92716
2S 6.18004	-0.00443	-0.16206
2S 2.65152	-0.00483	0.22371

*FLUORINE 1S(2)2S(2), 4-1S
T.E.=-0.87934034E 02 P.E.=-0.17586751E 03
K.E.= 0.87933487E 02 V.T.=-0.20000061E 01

S	1S	2S
BASIS/ORB E	-32.06549	-5.66548
1S 8.40138	0.95947	-0.28263
1S 14.49290	0.04729	-0.00964
2S 3.51902	0.00866	0.87712
2S 6.93735	-0.00416	-0.18132
2S 3.16979	-0.00659	0.29330

*NEON 1S(2)2S(2), 4-1S
T.E.=-0.11011100E 03 P.E.=-0.22022139E 03
K.E.= 0.11011039E 03 V.T.=-0.20000053E 01

S	1S	2S
BASIS/ORB E	-40.53984	-7.49073
1S 9.41721	0.96462	-0.29180
1S 16.33090	0.04034	-0.00768
2S 4.03975	0.00933	0.77484
2S 7.70160	-0.00255	-0.19852
2S 3.70015	-0.00737	0.41270

*SODIUM 1S(2)2S(2), 4-1S
T.E.=-0.13478838E 03 P.E.=-0.26957601E 03
K.E.= 0.13478763E 03 V.T.=-0.20000055E 01

S	1S	2S
BASIS/ORB E	-50.01480	-9.56631
1S 10.44000	0.96824	-0.29909
1S 18.19480	0.03456	-0.00599
2S 4.57105	0.00820	0.62732
2S 8.47211	-0.00009	-0.21339
2S 4.23753	-0.00667	0.57482

*MAGNESIUM 1S(2)2S(2), 4-1S
T.E.=-0.16196606E 03 P.E.=-0.32393143E 03
K.E.= 0.16196536E 03 V.T.=-0.20000043E 01

S	1S	2S
BASIS/ORB E	-60.49019	-11.89212
1S 11.46740	0.97071	-0.30500
1S 20.06820	0.02982	-0.00453
2S 5.10996	0.00516	0.44908
2S 9.24818	0.00284	-0.22602
2S 4.77740	-0.00432	0.76534

*ALUMINUM 1S(2)2S(2), 4-1S
T.E.=-0.19164398E 03 P.E.=-0.38328774E 03
K.E.= 0.19164375E 03 V.T.=-0.20000011E 01

S	1S	2S
BASIS/ORB E	-71.96589	-14.46810
1S 12.49710	0.97238	-0.30988
1S 21.93670	0.02597	-0.00329
2S 5.65377	0.00055	0.26162
2S 10.02910	0.00590	-0.23669
2S 5.31579	-0.00057	0.96308

TABLE 05- 02

*SILICON 1S(2)2S(2), 4-1S
T.E.=-0.22382206E 03 P.E.=-0.44764557E 03
K.E.= 0.22382350E 03 V.T.=-0.19999935E 01

S	1S	2S
BASIS/ORB E	-84.44181	-17.29420
1S 13.52730	0.97351	-0.31395
1S 23.78790	0.02286	-0.00226
2S 6.20000	-0.00496	0.08960
2S 10.81430	0.00886	-0.24578
2S 5.84920	0.00400	1.14382

*SULFUR 1S(2)2S(2), 4-1S
T.E.=-0.29567859E 03 P.E.=-0.59136084E 03
K.E.= 0.29568224E 03 V.T.=-0.19999875E 01

S	1S	2S
BASIS/ORB E	-112.39417	-23.69670
1S 15.58190	0.97496	-0.32028
1S 27.39850	0.01839	-0.00076
2S 7.29134	-0.01513	-0.13330
2S 12.39440	0.01365	-0.26080
2S 6.89048	0.01243	1.38115

*ARGON 1S(2)2S(2), 4-1S
T.E.=-0.37753547E 03 P.E.=-0.75507645E 03
K.E.= 0.37754098E 03 V.T.=-0.19999854E 01

S	1S	2S
BASIS/ORB E	-144.34707	-31.09948
1S 17.62060	0.97610	-0.32481
1S 30.84040	0.01566	0.00007
2S 8.36936	-0.02053	-0.15455
2S 13.98290	0.01631	-0.27384
2S 7.88450	0.01665	1.41509

*CALCIUM 1S(2)2S(2), 4-1S
T.E.=-0.46939258E 03 P.E.=-0.93879229E 03
K.E.= 0.46939971E 03 V.T.=-0.19999848E 01

S	1S	2S
BASIS/ORB E	-180.30030	-39.50247
1S 19.63630	0.97740	-0.32812
1S 34.08620	0.01417	0.00036
2S 9.42366	-0.02043	-0.02697
2S 15.57440	0.01659	-0.28630
2S 8.82351	0.01620	1.29991

*TITANIUM 1S(2)2S(2), 4-1S
T.E.=-0.57124985E 03 P.E.=-0.11425059E 04
K.E.= 0.57125615E 03 V.T.=-0.19999889E 01

S	1S	2S
BASIS/ORB E	-220.25378	-48.90560
1S 21.62610	0.97897	-0.33068
1S 37.14020	0.01360	0.00027
2S 10.44790	-0.01684	0.16724
2S 17.16330	0.01480	-0.29831
2S 9.70845	0.01300	1.11795

*PHOSPHORUS 1S(2)2S(2), 4-1S
T.E.=-0.25850028E 03 P.E.=-0.51700260E 03
K.E.= 0.25850233E 03 V.T.=-0.19999921E 01

S	1S	2S
BASIS/ORB E	-97.91793	-20.37041
1S 14.55600	0.97432	-0.31738
1S 25.61130	0.02037	-0.00142
2S 6.74653	-0.01040	-0.04667
2S 11.60290	0.01148	-0.25368
2S 6.37494	0.00853	1.28767

*CHLORINE 1S(2)2S(2), 4-1S
T.E.=-0.33535699E 03 P.E.=-0.67071867E 03
K.E.= 0.33536167E 03 V.T.=-0.19999859E 01

S	1S	2S
BASIS/ORB E	-127.87056	-27.27306
1S 16.60370	0.97553	-0.32273
1S 29.14300	0.01685	-0.00027
2S 7.83275	-0.01851	-0.16751
2S 13.18790	0.01527	-0.26745
2S 7.39408	0.01514	1.42180

*POTASSIUM 1S(2)2S(2), 4-1S
T.E.=-0.42221399E 03 P.E.=-0.84443454E 03
K.E.= 0.42222054E 03 V.T.=-0.19999845E 01

S	1S	2S
BASIS/ORB E	-161.82364	-35.17596
1S 18.63150	0.97672	-0.32660
1S 32.48830	0.01479	0.00028
2S 8.90000	-0.02103	-0.10429
2S 14.77860	0.01673	-0.28009
2S 8.36110	0.01688	1.37102

*SCANDIUM 1S(2)2S(2), 4-1S
T.E.=-0.51907119E 03 P.E.=-0.10381497E 04
K.E.= 0.51907864E 03 V.T.=-0.19999856E 01

S	1S	2S
BASIS/ORB E	-199.77701	-44.07902
1S 20.63450	0.97815	-0.32947
1S 35.63560	0.01379	0.00035
2S 9.93977	-0.01896	0.06622
2S 16.36950	0.01593	-0.29240
2S 9.27234	0.01484	1.21289

*VANADIUM 1S(2)2S(2), 4-1S
T.E.=-0.62592854E 03 P.E.=-0.12518646E 04
K.E.= 0.62593604E 03 V.T.=-0.19999880E 01

S	1S	2S
BASIS/ORB E	-241.73059	-53.98219
1S 22.61130	0.97983	-0.33180
1S 38.60530	0.01359	0.00014
2S 10.94790	-0.01437	0.26983
2S 17.95510	0.01330	-0.30393
2S 10.13330	0.01096	1.02123

*CHROMIUM 1S(2)2S(2), 4-1S
T.E.=-0.68310721E 03 P.E.=-0.13662223E 04
K.E.= 0.68311512E 03 V.T.=-0.19999883E 01

S	1S	2S
BASIS/ORB E	-264.20741	-59.30880
1S 23.59070	0.98073	-0.33290
1S 40.03870	0.01371	-0.00001
2S 11.43980	-0.01174	0.36942
2S 18.74420	0.01151	-0.30916
2S 10.54900	0.00884	0.92722

*MANGANESE 1S(2)2S(2), 4-1S
T.E.=-0.74278593E 03 P.E.=-0.14855821E 04
K.E.= 0.74279612E 03 V.T.=-0.19999862E 01

S	1S	2S
BASIS/ORB E	-287.68424	-64.88540
1S 24.56490	0.98164	-0.33402
1S 41.44970	0.01394	-0.00015
2S 11.92400	-0.00904	0.46349
2S 19.52980	0.00951	-0.31393
2S 10.95800	0.00674	0.83836

*IRON 1S(2)2S(2), 4-1S
T.E.=-0.80496467E 03 P.E.=-0.16099360E 04
K.E.= 0.80497129E 03 V.T.=-0.19999918E 01

S	1S	2S
BASIS/ORB E	-312.16116	-70.71202
1S 25.53480	0.98255	-0.33519
1S 42.85000	0.01425	-0.00025
2S 12.40110	-0.00645	0.54996
2S 20.31140	0.00740	-0.31814
2S 11.36340	0.00477	0.75664

*COBALT 1S(2)2S(2), 4-1S
T.E.=-0.86964341E 03 P.E.=-0.17392968E 04
K.E.= 0.86965337E 03 V.T.=-0.19999885E 01

S	1S	2S
BASIS/ORB E	-337.63801	-76.78864
1S 26.50170	0.98344	-0.33647
1S 44.25310	0.01459	-0.00028
2S 12.87210	-0.00393	0.62769
2S 21.08810	0.00524	-0.32178
2S 11.76900	0.00289	0.68319

*NICKEL 1S(2)2S(2), 4-1S
T.E.=-0.93682219E 03 P.E.=-0.18736582E 04
K.E.= 0.93683613E 03 V.T.=-0.19999851E 01

S	1S	2S
BASIS/ORB E	-364.11491	-83.11528
1S 27.46710	0.98432	-0.33787
1S 45.67450	0.01492	-0.00021
2S 13.33790	-0.00160	0.69612
2S 21.85940	0.00315	-0.32485
2S 12.17900	0.00118	0.61855

*COPPER 1S(2)2S(2), 4-1S
T.E.=-0.10065009E 04 P.E.=-0.20130119E 04
K.E.= 0.10065109E 04 V.T.=-0.19999900E 01

S	1S	2S
BASIS/ORB E	-391.59184	-89.69193
1S 28.43250	0.98519	-0.33940
1S 47.13170	0.01519	-0.00005
2S 13.80000	0.00061	0.75492
2S 22.62460	0.00116	-0.32742
2S 12.59800	-0.00043	0.56311

*ZINC 1S(2)2S(2), 4-1S
T.E.=-0.10786798E 04 P.E.=-0.21573693E 04
K.E.= 0.10786895E 04 V.T.=-0.19999909E 01

S	1S	2S
BASIS/ORB E	-420.06883	-96.51860
1S 29.39990	0.98605	-0.34106
1S 48.64430	0.01535	0.00024
2S 14.26000	0.00270	0.80351
2S 23.38290	-0.00064	-0.32957
2S 13.03150	-0.00197	0.51751

*GALLIUM 1S(2)2S(2), 4-1S
T.E.=-0.11533587E 04 P.E.=-0.23067252E 04
K.E.= 0.11533666E 04 V.T.=-0.19999930E 01

S	1S	2S
BASIS/ORB E	-449.54581	-103.59528
1S 30.37150	0.98690	-0.34281
1S 50.23370	0.01536	0.00065
2S 14.71990	0.00459	0.84128
2S 24.13360	-0.00216	-0.33148
2S 13.48520	-0.00338	0.48249

*GERMANIUM 1S(2)2S(2), 4-1S
T.E.=-0.12305376E 04 P.E.=-0.24610781E 04
K.E.= 0.12305405E 04 V.T.=-0.19999976E 01

S	1S	2S
BASIS/ORB E	-480.02286	-110.92197
1S 31.34970	0.98775	-0.34461
1S 51.92350	0.01514	0.00115
2S 15.18160	0.00636	0.86688
2S 24.87610	-0.00334	-0.33329
2S 13.96550	-0.00476	0.45951

*ARSENIC 1S(2)2S(2), 4-1S
T.E.=-0.13102163E 04 P.E.=-0.26204380E 04
K.E.= 0.13102215E 04 V.T.=-0.19999961E 01

S	1S	2S
BASIS/ORB E	-511.49988	-118.49867
1S 32.33710	0.98858	-0.34639
1S 53.73920	0.01468	0.00174
2S 15.64780	0.00796	0.87714
2S 25.60970	-0.00409	-0.33518
2S 14.47940	-0.00608	0.45189

TABLE 05- 04

*SELENIUM 1S(2)2S(2), 4-1S
T.E.=-0.13923953E 04 P.E.=-0.27847943E 04
K.E.= 0.13923988E 04 V.T.=-0.19999973E 01

S	1S	2S
BASIS/ORB E	-543.97694	-126.32540
1S 33.33660	0.98936	-0.34811
1S 55.70840	0.01393	0.00238
2S 16.12090	0.00934	0.86630
2S 26.33370	-0.00431	-0.33733
2S 15.03430	-0.00733	0.46549

*BROMINE 1S(2)2S(2), 4-1S
T.E.=-0.14770742E 04 P.E.=-0.29541422E 04
K.E.= 0.14770681E 04 V.T.=-0.20000041E 01

S	1S	2S
BASIS/ORB E	-577.45408	-134.40209
1S 34.35140	0.99004	-0.34967
1S 57.86040	0.01290	0.00306
2S 16.60390	0.01033	0.82138
2S 27.04730	-0.00388	-0.33991
2S 15.63830	-0.00839	0.51341

*KRYPTON 1S(2)2S(2), 4-1S
T.E.=-0.15642530E 04 P.E.=-0.31284980E 04
K.E.= 0.15642448E 04 V.T.=-0.20000052E 01

S	1S	2S
BASIS/ORB E	-611.93117	-142.72879
1S 35.38490	0.99053	-0.35103
1S 60.22690	0.01159	0.00374
2S 17.10000	0.01041	0.71030
2S 27.75000	-0.00262	-0.34298
2S 16.30000	-0.00882	0.62777

TABLE 06- 01

*BORON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.24529049E 02 P.E.=-0.49057862E 02
K.E.= 0.24528813E 02 V.T.=-0.20000096E 01

S		1S		2S		P		2P
BASIS/ORB	E	-7.69539		-0.49471	BASIS/ORB	E	-0.30992	
1S	4.55560	0.90867		-0.17830	2P	1.35430	0.38249	
1S	8.04470	0.06957		-0.01643	2P	2.22960	0.13209	
2S	1.64190	0.00203		0.55156	2P	0.87830	0.54001	
2S	4.14890	0.03512		-0.08345	2P	5.36650	0.00957	
2S	1.06990	-0.00058		0.53182				

*NITROGEN 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.52815782E 02 P.E.=-0.10563157E 03
K.E.= 0.52815790E 02 V.T.=-0.19999997E 01

S		1S		2S		P		2P
BASIS/ORB	E	-17.11778		-2.07205	BASIS/ORB	E	-1.75567	
1S	6.54814	0.93094		-0.23272	2P	2.36335	0.47715	
1S	11.28290	0.05257		-0.01235	2P	3.86640	0.11050	
2S	2.61984	0.00118		0.48041	2P	1.85312	0.43757	
2S	5.71553	0.02682		-0.11668	2P	8.24784	0.00756	
2S	2.04604	-0.00026		0.62318				

*FLUORINE 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.92126748E 02 P.E.=-0.18425380E 03
K.E.= 0.92127051E 02 V.T.=-0.19999967E 01

S		1S		2S		P		2P
BASIS/ORB	E	-30.57681		-4.66855	BASIS/ORB	E	-4.21605	
1S	8.54068	0.94437		-0.26245	2P	3.37239	0.51738	
1S	14.52100	0.04254		-0.00971	2P	5.50320	0.09083	
2S	3.59778	0.00007		0.44384	2P	2.82794	0.40863	
2S	7.28215	0.02170		-0.14783	2P	11.12920	0.00555	
2S	3.02217	0.00031		0.68890				

*SODIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.14244626E 03 P.E.=-0.28489312E 03
K.E.= 0.14244685E 03 V.T.=-0.19999959E 01

S		1S		2S		P		2P
BASIS/ORB	E	-48.04767		-8.27059	BASIS/ORB	E	-7.68183	
1S	10.53320	0.95347		-0.28153	2P	4.38144	0.54415	
1S	17.75920	0.03587		-0.00761	2P	7.14000	0.07624	
2S	4.57573	-0.00076		0.42193	2P	3.80276	0.39246	
2S	8.84878	0.01806		-0.17372	2P	14.01050	0.00425	
2S	3.99831	0.00079		0.73692				

*CARBON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.37292213E 02 P.E.=-0.74584208E 02
K.E.= 0.37291994E 02 V.T.=-0.20000058E 01

S		1S		2S		P		2P
BASIS/ORB	E	-11.89830		-1.15379	BASIS/ORB	E	-0.90475	
1S	5.55187	0.92143		-0.21033	2P	1.85882	0.44498	
1S	9.66378	0.05979		-0.01400	2P	3.04800	0.12186	
2S	2.13087	0.00173		0.50835	2P	1.36571	0.46744	
2S	4.93221	0.03035		-0.09950	2P	6.80717	0.00883	
2S	1.55797	-0.00049		0.58179				

*OXYGEN 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.71094690E 02 P.E.=-0.14218953E 03
K.E.= 0.71094847E 02 V.T.=-0.19999977E 01

S		1S		2S		P		2P
BASIS/ORB	E	-23.34508		-3.24424	BASIS/ORB	E	-2.85987	
1S	7.54441	0.93837		-0.24943	2P	2.86787	0.49974	
1S	12.90190	0.04699		-0.01095	2P	4.68480	0.09999	
2S	3.10881	0.00060		0.45973	2P	2.34053	0.42040	
2S	6.49884	0.02402		-0.13292	2P	9.68850	0.00645	
2S	2.53410	0.00002		0.65860				

*NEON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.11591083E 03 P.E.=-0.23182207E 03
K.E.= 0.11591125E 03 V.T.=-0.19999962E 01

S		1S		2S		P		2P
BASIS/ORB	E	-38.81131		-6.34415	BASIS/ORB	E	-5.82351	
1S	9.53695	0.94931		-0.27292	2P	3.87691	0.53187	
1S	16.14010	0.03890		-0.00861	2P	6.32160	0.08298	
2S	4.08675	-0.00039		0.43151	2P	3.31535	0.39970	
2S	8.06546	0.01975		-0.16139	2P	12.56980	0.00483	
2S	3.51024	0.00057		0.71479				

*MAGNESIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.17173269E 03 P.E.=-0.34346610E 03
K.E.= 0.17173341E 03 V.T.=-0.19999959E 01

S		1S		2S		P		2P
BASIS/ORB	E	-58.28532		-10.44763	BASIS/ORB	E	-9.79077	
1S	11.52950	0.95701		-0.28875	2P	4.88596	0.55474	
1S	19.37830	0.03330		-0.00671	2P	7.95840	0.07044	
2S	5.06470	-0.00106		0.41459	2P	4.29017	0.38633	
2S	9.63209	0.01660		-0.18493	2P	15.45120	0.00378	
2S	4.48637	0.00098		0.75582				

TABLE 06- 02

*ALUMINUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.20376985E 03 P.E.=-0.40754054E 03
K.E.= 0.20377070E 03 V.T.=-0.19999958E 01

S	1S	2S	P	2P
BASIS/ORB E	-69.52393	-12.87509	BASIS/ORB E	-12.15018
1S 12.52580	0.96006	-0.29489	2P 5.39048	0.56405
1S 20.99730	0.03109	-0.00590	2P 8.77680	0.06541
2S 5.55367	-0.00127	0.40899	2P 4.77758	0.38099
2S 10.41540	0.01530	-0.19514	2P 16.89180	0.00339
2S 4.97444	0.00112	0.77204		

*PHOSPHORUS 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.27609567E 03 P.E.=-0.55219301E 03
K.E.= 0.27609733E 03 V.T.=-0.19999938E 01

S	1S	2S	P	2P
BASIS/ORB E	-95.00309	-18.48087	BASIS/ORB E	-17.61994
1S 14.51830	0.96507	-0.30480	2P 6.39953	0.57976
1S 24.23550	0.02750	-0.00449	2P 10.41360	0.05714
2S 6.53161	-0.00148	0.40211	2P 5.75240	0.37194
2S 11.98200	0.01310	-0.21304	2P 19.77320	0.00280
2S 5.95058	0.00126	0.79768		

*CHLORINE 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.35942285E 03 P.E.=-0.71884865E 03
K.E.= 0.35942579E 03 V.T.=-0.19999918E 01

S	1S	2S	P	2P
BASIS/ORB E	-124.48408	-25.08745	BASIS/ORB E	-24.09057
1S 16.51090	0.96900	-0.31246	2P 7.40857	0.59259
1S 27.47370	0.02470	-0.00333	2P 12.05040	0.05066
2S 7.50955	-0.00147	0.39948	2P 6.72722	0.36443
2S 13.54870	0.01131	-0.22816	2P 22.65450	0.00237
2S 6.92671	0.00125	0.81626		

*POTASSIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.45375094E 03 P.E.=-0.90750412E 03
K.E.= 0.45375317E 03 V.T.=-0.19999950E 01

S	1S	2S	P	2P
BASIS/ORB E	-157.96618	-32.69452	BASIS/ORB E	-31.56177
1S 18.50340	0.97218	-0.31855	2P 8.41762	0.60334
1S 30.71180	0.02245	-0.00235	2P 13.68720	0.04546
2S 8.48749	-0.00125	0.39991	2P 7.70204	0.35799
2S 15.11530	0.00981	-0.24107	2P 25.53580	0.00205
2S 7.90285	0.00106	0.82949		

*SILICON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.23855755E 03 P.E.=-0.47711691E 03
K.E.= 0.23855936E 03 V.T.=-0.19999924E 01

S	1S	2S	P	2P
BASIS/ORB E	-81.76325	-15.55286	BASIS/ORB E	-14.75992
1S 13.52200	0.96273	-0.30019	2P 5.89500	0.57233
1S 22.61640	0.02918	-0.00516	2P 9.59520	0.06101
2S 6.04264	-0.00140	0.40496	2P 5.26499	0.37624
2S 11.19870	0.01413	-0.20448	2P 18.33250	0.00307
2S 5.46251	0.00120	0.78585		

*SULFUR 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.31638413E 03 P.E.=-0.63276950E 03
K.E.= 0.31638537E 03 V.T.=-0.19999961E 01

S	1S	2S	P	2P
BASIS/ORB E	-109.24343	-21.65909	BASIS/ORB E	-20.73017
1S 15.51460	0.96715	-0.30886	2P 6.90405	0.58646
1S 25.85460	0.02602	-0.00388	2P 11.23200	0.05371
2S 7.02058	-0.00150	0.40035	2P 6.23981	0.36804
2S 12.76530	0.01216	-0.22090	2P 21.21380	0.00257
2S 6.43865	0.00127	0.80773		

*ARGON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.40521181E 03 P.E.=-0.81042454E 03
K.E.= 0.40521272E 03 V.T.=-0.19999976E 01

S	1S	2S	P	2P
BASIS/ORB E	-140.72502	-28.76593	BASIS/ORB E	-27.70111
1S 17.50710	0.97067	-0.31567	2P 7.91309	0.59817
1S 29.09270	0.02351	-0.00282	2P 12.86880	0.04793
2S 7.99852	-0.00138	0.39934	2P 7.21463	0.36111
2S 14.33200	0.01052	-0.23485	2P 24.09520	0.00220
2S 7.41478	0.00117	0.82348		

*CALCIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.50504021E 03 P.E.=-0.10100806E 04
K.E.= 0.50504036E 03 V.T.=-0.19999997E 01

S	1S	2S	P	2P
BASIS/ORB E	-176.20756	-36.87319	BASIS/ORB E	-35.67252
1S 19.49970	0.97354	-0.32116	2P 8.92214	0.60812
1S 32.33090	0.02148	-0.00192	2P 14.50560	0.04322
2S 8.97646	-0.00110	0.40105	2P 8.18945	0.35508
2S 15.89860	0.00915	-0.24685	2P 26.97650	0.00192
2S 8.39092	0.00094	0.83447		

TABLE 06- 03

*SCANDIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.55907962E 03 P.E.=-0.11181611E 04
K.E.= 0.55908144E 03 V.T.=-0.19999967E 01

S		1S		2S		P		2P
BASIS/ORB E	-195.44907	-41.30193	BASIS/ORB E	-40.03336				
1S	20.49590	0.97479	-0.32352	2P	9.42666	0.61260		
1S	33.95000	0.02061	-0.00152	2P	15.32400	0.04119		
2S	9.46544	-0.00093	0.40269	2P	8.67685	0.35230		
2S	16.68190	0.00854	-0.25223	2P	28.41720	0.00181		
2S	8.87898	0.00079	0.83853					

*VANADIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.67540877E 03 P.E.=-0.13508204E 04
K.E.= 0.67541161E 03 V.T.=-0.19999958E 01

S		1S		2S		P		2P
BASIS/ORB E	-236.93252	-50.90958	BASIS/ORB E	-49.50524				
1S	22.48850	0.97698	-0.32766	2P	10.43570	0.62057		
1S	37.18820	0.01907	-0.00080	2P	16.96080	0.03764		
2S	10.44340	-0.00051	0.40723	2P	9.65167	0.34731		
2S	18.24850	0.00747	-0.26195	2P	31.29850	0.00161		
2S	9.85512	0.00045	0.84431					

*MANGANESE 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.80273826E 03 P.E.=-0.16054785E 04
K.E.= 0.80274022E 03 V.T.=-0.19999974E 01

S		1S		2S		P		2P
BASIS/ORB E	-282.41640	-61.51741	BASIS/ORB E	-59.97732				
1S	24.48100	0.97884	-0.33115	2P	11.44480	0.62758		
1S	40.42630	0.01776	-0.00018	2P	18.59760	0.03463		
2S	11.42130	0.00003	0.41310	2P	10.62650	0.34285		
2S	19.81520	0.00652	-0.27048	2P	34.17990	0.00145		
2S	10.83130	-0.00002	0.84752					

*COBALT 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.94106799E 03 P.E.=-0.18821380E 04
K.E.= 0.94107016E 03 V.T.=-0.19999976E 01

S		1S		2S		P		2P
BASIS/ORB E	-331.90061	-73.12538	BASIS/ORB E	-71.44957				
1S	26.47360	0.98045	-0.33414	2P	12.45380	0.63386		
1S	43.66450	0.01663	0.00037	2P	20.23440	0.03205		
2S	12.39930	0.00073	0.42011	2P	11.60130	0.33874		
2S	21.38180	0.00568	-0.27804	2P	37.06120	0.00132		
2S	11.80740	-0.00063	0.84854					

*TITANIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.61586913E 03 P.E.=-0.12317400E 04
K.E.= 0.61587093E 03 V.T.=-0.19999970E 01

S		1S		2S		P		2P
BASIS/ORB E	-215.69073	-45.98073	BASIS/ORB E	-44.64427				
1S	21.49220	0.97593	-0.32568	2P	9.93118	0.61672		
1S	35.56910	0.01980	-0.00114	2P	16.14240	0.03934		
2S	9.95441	-0.00073	0.40482	2P	9.16426	0.34974		
2S	17.46520	0.00799	-0.25725	2P	29.85790	0.00170		
2S	9.36705	0.00063	0.84174					

*CHROMIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.73769849E 03 P.E.=-0.14753985E 04
K.E.= 0.73770012E 03 V.T.=-0.19999977E 01

S		1S		2S		P		2P
BASIS/ORB E	-259.17442	-56.08847	BASIS/ORB E	-54.61626				
1S	23.48470	0.97794	-0.32948	2P	10.94020	0.62417		
1S	38.80720	0.01839	-0.00048	2P	17.77920	0.03608		
2S	10.93230	-0.00025	0.41008	2P	10.13910	0.34503		
2S	19.03180	0.00697	-0.26635	2P	32.73920	0.00152		
2S	10.34320	0.00022	0.84615					

*IRON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.87052810E 03 P.E.=-0.17410585E 04
K.E.= 0.87053048E 03 V.T.=-0.19999973E 01

S		1S		2S		P		2P
BASIS/ORB E	-306.65845	-67.19638	BASIS/ORB E	-65.58842				
1S	25.47730	0.97967	-0.33270	2P	11.94930	0.63080		
1S	42.04540	0.01718	0.00010	2P	19.41600	0.03329		
2S	11.91030	0.00036	0.41664	2P	11.11390	0.34076		
2S	20.59850	0.00609	-0.27438	2P	35.62050	0.00138		
2S	11.31930	-0.00031	0.84811					

*NICKEL 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.10143579E 04 P.E.=-0.20287175E 04
K.E.= 0.10143597E 04 V.T.=-0.19999982E 01

S		1S		2S		P		2P
BASIS/ORB E	-358.14279	-79.30441	BASIS/ORB E	-77.56074				
1S	27.46980	0.98116	-0.33548	2P	12.95830	0.63676		
1S	45.28360	0.01614	0.00062	2P	21.05280	0.03090		
2S	12.88820	0.00096	0.42391	2P	12.08870	0.33682		
2S	22.16510	0.00532	-0.28149	2P	38.50190	0.00126		
2S	12.29550	-0.00083	0.84842					

TABLE 06- 04

*COPPER 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.10903978E 04 P.E.=-0.21807978E 04
K.E.= 0.10903998E 04 V.T.=-0.19999982E 01

S		1S		2S		P		2P
BASIS/ORB E	-385.38503	-85.73346	BASIS/ORB E	-83.92194				
1S	28.46610	0.98183	-0.33673	2P	13.46280	0.63952		
1S	46.90260	0.01567	0.00085	2P	21.87120	0.02982		
2S	13.37720	0.00127	0.42816	2P	12.57610	0.33498		
2S	22.94840	0.00497	-0.28478	2P	39.94250	0.00121		
2S	12.78350	-0.00111	0.84766					

*GALLIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.12507280E 04 P.E.=-0.25014590E 04
K.E.= 0.12507310E 04 V.T.=-0.19999976E 01

S		1S		2S		P		2P
BASIS/ORB E	-442.86965	-99.34160	BASIS/ORB E	-97.39439				
1S	30.45860	0.98306	-0.33898	2P	14.47190	0.64449		
1S	50.14080	0.01482	0.00128	2P	23.50800	0.02787		
2S	14.35510	0.00200	0.43696	2P	13.55100	0.33167		
2S	24.51500	0.00431	-0.29085	2P	42.82390	0.00112		
2S	13.75970	-0.00175	0.84530					

*ARSENIC 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.14220582E 04 P.E.=-0.28441186E 04
K.E.= 0.14220604E 04 V.T.=-0.19999985E 01

S		1S		2S		P		2P
BASIS/ORB E	-504.35445	-113.94984	BASIS/ORB E	-111.86695				
1S	32.45120	0.98414	-0.34098	2P	15.48090	0.64911		
1S	53.37900	0.01406	0.00166	2P	25.14480	0.02615		
2S	15.33310	0.00283	0.44599	2P	14.52580	0.32852		
2S	26.08170	0.00372	-0.29628	2P	45.70520	0.00104		
2S	14.73580	-0.00250	0.84206					

*BROMINE 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.16043886E 04 P.E.=-0.32087795E 04
K.E.= 0.16043910E 04 V.T.=-0.19999985E 01

S		1S		2S		P		2P
BASIS/ORB E	-569.83939	-129.55812	BASIS/ORB E	-127.33956				
1S	34.44370	0.98511	-0.34275	2P	16.49000	0.65326		
1S	56.61710	0.01339	0.00200	2P	26.78160	0.02462		
2S	16.31100	0.00358	0.45588	2P	15.50060	0.32567		
2S	27.64830	0.00320	-0.30123	2P	48.58650	0.00097		
2S	15.71190	-0.00318	0.83742					

*ZINC 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.11691879E 04 P.E.=-0.23383780E 04
K.E.= 0.11691900E 04 V.T.=-0.19999982E 01

S		1S		2S		P		2P
BASIS/ORB E	-413.62732	-92.41253	BASIS/ORB E	-90.53316				
1S	29.46240	0.98246	-0.33790	2P	13.96740	0.64205		
1S	48.52170	0.01523	0.00107	2P	22.68960	0.02881		
2S	13.86620	0.00166	0.43230	2P	13.06350	0.33331		
2S	23.73170	0.00463	-0.28788	2P	41.38320	0.00116		
2S	13.27160	-0.00145	0.84682					

*GERMANIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.13350181E 04 P.E.=-0.26700383E 04
K.E.= 0.13350201E 04 V.T.=-0.19999983E 01

S		1S		2S		P		2P
BASIS/ORB E	-473.11202	-106.52071	BASIS/ORB E	-104.50567				
1S	31.45490	0.98361	-0.34002	2P	14.97640	0.64687		
1S	51.75990	0.01443	0.00148	2P	24.32640	0.02698		
2S	14.84410	0.00238	0.44138	2P	14.03840	0.33005		
2S	25.29830	0.00401	-0.29362	2P	44.26450	0.00108		
2S	14.24770	-0.00209	0.84384					

*SELENIUM 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.15118483E 04 P.E.=-0.30236983E 04
K.E.= 0.15118498E 04 V.T.=-0.19999989E 01

S		1S		2S		P		2P
BASIS/ORB E	-536.59692	-121.62897	BASIS/ORB E	-119.47826				
1S	33.44750	0.98464	-0.34190	2P	15.98550	0.65119		
1S	54.99800	0.01371	0.00184	2P	25.96320	0.02536		
2S	15.82210	0.00321	0.45061	2P	15.01320	0.32711		
2S	26.86500	0.00346	-0.29880	2P	47.14590	0.00101		
2S	15.22390	-0.00285	0.84012					

*KRYPTON 1S(2)2S(2)2P(1), 5-2P
T.E.=-0.16996787E 04 P.E.=-0.33993530E 04
K.E.= 0.16996743E 04 V.T.=-0.20000026E 01

S		1S		2S		P		2P
BASIS/ORB E	-604.08192	-137.73727	BASIS/ORB E	-135.45090				
1S	35.44000	0.98554	-0.34357	2P	16.99450	0.65524		
1S	58.23620	0.01308	0.00217	2P	27.60000	0.02392		
2S	16.80000	0.00391	0.46061	2P	15.98800	0.32429		
2S	28.43160	0.00296	-0.30351	2P	50.02720	0.00094		
2S	16.20000	-0.00348	0.83513					

TABLE 07- 01

*CARBON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.37688584E 02 P.E.=-0.75376657E 02
K.E.= 0.37688072E 02 V.T.=-0.20000135E 01

S		1S		2S	P		2P
BASIS/ORB	E	-11.32539	-0.70552	BASIS/ORB	E	-0.43316	
1S	5.37670	0.91214	-0.16317	2P	1.42090	0.57770	
1S	8.98200	0.09163	-0.03424	2P	2.58730	0.23561	
2S	2.01310	0.00430	0.58156	2P	0.95540	0.24762	
2S	5.63190	0.00329	-0.08564	2P	6.34380	0.01090	
2S	1.30890	-0.00135	0.49825				

*OXYGEN 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.73100162E 02 P.E.=-0.14620052E 03
K.E.= 0.73100369E 02 V.T.=-0.19999970E 01

S		1S		2S	P		2P
BASIS/ORB	E	-22.26125	-2.47956	BASIS/ORB	E	-2.04379	
1S	7.38744	0.93378	-0.22141	2P	2.45792	0.63876	
1S	12.32520	0.06598	-0.02176	2P	4.21655	0.17618	
2S	2.99167	0.00789	0.48521	2P	1.93635	0.21670	
2S	7.14644	0.00483	-0.10183	2P	9.24779	0.00737	
2S	2.28775	-0.00383	0.60525				

*NEON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.12054352E 03 P.E.=-0.24108614E 03
K.E.= 0.12054262E 03 V.T.=-0.20000073E 01

S		1S		2S	P		2P
BASIS/ORB	E	-37.23940	-5.27628	BASIS/ORB	E	-4.67170	
1S	9.39818	0.94670	-0.25279	2P	3.49494	-0.65828	
1S	15.66840	0.05123	-0.01581	2P	5.84579	-0.13785	
2S	3.97025	0.00966	0.42719	2P	2.91731	-0.22602	
2S	8.66098	0.00547	-0.12438	2P	12.15180	-0.00524	
2S	3.26659	-0.00556	0.68438				

*MAGNESIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.17999968E 03 P.E.=-0.35999723E 03
K.E.= 0.17999755E 03 V.T.=-0.20000117E 01

S		1S		2S	P		2P
BASIS/ORB	E	-56.23333	-9.08032	BASIS/ORB	E	-8.30634	
1S	11.40890	0.95525	-0.27338	2P	4.53196	0.66142	
1S	19.01160	0.04169	-0.01175	2P	7.47504	0.11242	
2S	4.94882	0.01040	0.38794	2P	3.89826	0.24343	
2S	10.17550	0.00589	-0.14591	2P	15.05580	0.00395	
2S	4.24544	-0.00662	0.74523				

*NITROGEN 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.53887974E 02 P.E.=-0.10777622E 03
K.E.= 0.53888258E 02 V.T.=-0.19999947E 01

S		1S		2S	P		2P
BASIS/ORB	E	-16.28437	-1.46237	BASIS/ORB	E	-1.10991	
1S	6.38207	0.92449	-0.19793	2P	1.93941	0.61678	
1S	10.65360	0.07682	-0.02635	2P	3.40192	0.20290	
2S	2.50239	0.00639	0.52564	2P	1.44588	0.22145	
2S	6.38917	0.00428	-0.09160	2P	7.79579	0.00895	
2S	1.79832	-0.00267	0.55665				

*FLUORINE 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.95319571E 02 P.E.=-0.19063918E 03
K.E.= 0.95319615E 02 V.T.=-0.19999994E 01

S		1S		2S	P		2P
BASIS/ORB	E	-29.24748	-3.75156	BASIS/ORB	E	-3.23154	
1S	8.39281	0.94097	-0.23897	2P	2.97643	0.65146	
1S	13.99680	0.05772	-0.01844	2P	5.03117	0.15492	
2S	3.48096	0.00894	0.45324	2P	2.42683	0.21958	
2S	7.90371	0.00519	-0.11308	2P	10.69980	0.00616	
2S	2.77717	-0.00479	0.64745				

*SODIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.14877052E 03 P.E.=-0.29753943E 03
K.E.= 0.14876891E 03 V.T.=-0.20000108E 01

S		1S		2S	P		2P
BASIS/ORB	E	-46.23507	-7.05272	BASIS/ORB	E	-6.36346	
1S	10.40360	0.95136	-0.26403	2P	4.01345	0.66120	
1S	17.34000	0.04599	-0.01362	2P	6.66042	0.12394	
2S	4.45953	0.01012	0.40570	2P	3.40778	0.23425	
2S	9.41825	0.00570	-0.13537	2P	13.60380	0.00452	
2S	3.75602	-0.00616	0.71680				

*ALUMINUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.21423040E 03 P.E.=-0.42845807E 03
K.E.= 0.21422767E 03 V.T.=-0.20000128E 01

S		1S		2S	P		2P
BASIS/ORB	E	-67.23349	-11.35874	BASIS/ORB	E	-10.50005	
1S	12.41430	0.95851	-0.28129	2P	5.05047	0.65983	
1S	20.68320	0.03809	-0.01013	2P	8.28966	0.10276	
2S	5.43811	0.01051	0.37325	2P	4.38874	0.25302	
2S	10.93280	0.00607	-0.15595	2P	16.50780	0.00350	
2S	4.73486	-0.00695	0.77019				

TABLE 07- 02

*SILICON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.25146234E 03 P.E.=-0.50292300E 03
K.E.= 0.25146066E 03 V.T.=-0.20000065E 01

S	1S	2S	P	2P
BASIS/ORB E	-79.23506	-13.88776	BASIS/ORB E	-12.94437
1S 13.41970	0.96131	-0.28808	2P 5.56898	0.65698
1S 22.35480	0.03503	-0.00871	2P 9.10429	0.09454
2S 5.92739	0.01050	0.36115	2P 4.87921	0.26272
2S 11.69010	0.00623	-0.16547	2P 17.95970	0.00313
2S 5.22429	-0.00717	0.79210		

*SULFUR 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.33492877E 03 P.E.=-0.66985478E 03
K.E.= 0.33492552E 03 V.T.=-0.20000096E 01

S	1S	2S	P	2P
BASIS/ORB E	-106.24124	-19.69707	BASIS/ORB E	-18.58436
1S 15.43040	0.96584	-0.29917	2P 6.60600	0.64896
1S 25.69800	0.03011	-0.00632	2P 10.73350	0.08134
2S 6.90597	0.01020	0.34340	2P 5.86017	0.28184
2S 13.20460	0.00652	-0.18304	2P 20.86370	0.00257
2S 6.20313	-0.00732	0.82809		

*ARGON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.43039756E 03 P.E.=-0.86079078E 03
K.E.= 0.43039320E 03 V.T.=-0.20000100E 01

S	1S	2S	P	2P
BASIS/ORB E	-137.25023	-26.50754	BASIS/ORB E	-25.22558
1S 17.44110	0.96935	-0.30783	2P 7.64302	0.63940
1S 29.04120	0.02633	-0.00439	2P 12.36280	0.07123
2S 7.88454	0.00961	0.33242	2P 6.84112	0.29997
2S 14.71910	0.00678	-0.19877	2P 23.76770	0.00218
2S 7.18198	-0.00717	0.85547		

*CALCIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.53786796E 03 P.E.=-0.10757285E 04
K.E.= 0.53786060E 03 V.T.=-0.20000135E 01

S	1S	2S	P	2P
BASIS/ORB E	-172.26109	-34.31876	BASIS/ORB E	-32.86762
1S 19.45190	0.97216	-0.31480	2P 8.68004	0.62930
1S 32.38440	0.02333	-0.00280	2P 13.99200	0.06324
2S 8.86311	0.00881	0.32670	2P 7.82207	0.31687
2S 16.23370	0.00702	-0.21289	2P 26.67170	0.00188
2S 8.16083	-0.00678	0.87596		

*PHOSPHORUS 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.29169519E 03 P.E.=-0.58338670E 03
K.E.= 0.29169150E 03 V.T.=-0.20000125E 01

S	1S	2S	P	2P
BASIS/ORB E	-92.23774	-16.66724	BASIS/ORB E	-15.63918
1S 14.42500	0.96373	-0.29399	2P 6.08749	0.65326
1S 24.02640	0.03240	-0.00745	2P 9.91891	0.08748
2S 6.41668	0.01040	0.35130	2P 5.36969	0.27237
2S 12.44730	0.00638	-0.17449	2P 19.41170	0.00283
2S 5.71371	-0.00729	0.81131		

*CHLORINE 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.38116292E 03 P.E.=-0.76232164E 03
K.E.= 0.38115872E 03 V.T.=-0.20000110E 01

S	1S	2S	P	2P
BASIS/ORB E	-121.24547	-22.97719	BASIS/ORB E	-21.77985
1S 16.43580	0.96770	-0.30375	2P 7.12451	0.64430
1S 27.36960	0.02810	-0.00531	2P 11.54820	0.07597
2S 7.39525	0.00994	0.33716	2P 6.35064	0.29105
2S 13.96190	0.00666	-0.19112	2P 22.31570	0.00236
2S 6.69256	-0.00728	0.84275		

*POTASSIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.48263261E 03 P.E.=-0.96526209E 03
K.E.= 0.48262949E 03 V.T.=-0.20000064E 01

S	1S	2S	P	2P
BASIS/ORB E	-154.25543	-30.28807	BASIS/ORB E	-28.92151
1S 18.44650	0.97083	-0.31149	2P 8.16153	0.63437
1S 30.71280	0.02475	-0.00356	2P 13.17740	0.06701
2S 8.37383	0.00924	0.32903	2P 7.33160	0.30859
2S 15.47640	0.00690	-0.20602	2P 25.21970	0.00202
2S 7.67140	-0.00701	0.86645		

*SCANDIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.59610362E 03 P.E.=-0.11922026E 04
K.E.= 0.59609904E 03 V.T.=-0.20000076E 01

S	1S	2S	P	2P
BASIS/ORB E	-191.26698	-38.59957	BASIS/ORB E	-37.06387
1S 20.45720	0.97336	-0.31780	2P 9.19855	0.62423
1S 34.05600	0.02206	-0.00210	2P 14.80660	0.05984
2S 9.35240	0.00833	0.32552	2P 8.31255	0.32484
2S 16.99090	0.00712	-0.21941	2P 28.12370	0.00176
2S 8.65025	-0.00650	0.88396		

*TITANIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.65733949E 03 P.E.=-0.13146745E 04
K.E.= 0.65733500E 03 V.T.=-0.20000067E 01

S		1S		2S		P		2P
BASIS/ORB E	-211.27318		-43.13049	BASIS/ORB E		-41.51024		
1S	21.46260	0.97445	-0.32052	2P	9.71706	0.61921		
1S	35.72760	0.02090	-0.00146	2P	15.62130	0.05677		
2S	9.84169	0.00784	0.32524	2P	8.80303	0.33248		
2S	17.74820	0.00723	-0.22561	2P	29.57570	0.00166		
2S	9.13967	-0.00619	0.89072					

*CHROMIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.78881184E 03 P.E.=-0.15776191E 04
K.E.= 0.78880729E 03 V.T.=-0.20000058E 01

S		1S		2S		P		2P
BASIS/ORB E	-254.28626		-52.94261	BASIS/ORB E		-51.15329		
1S	23.47340	0.97636	-0.32532	2P	10.75410	0.60940		
1S	39.07080	0.01889	-0.00032	2P	17.25050	0.05144		
2S	10.82030	0.00677	0.32699	2P	9.78398	0.34685		
2S	19.26280	0.00742	-0.23708	2P	32.47970	0.00149		
2S	10.11850	-0.00548	0.90098					

*IRON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.93228481E 03 P.E.=-0.18645652E 04
K.E.= 0.93228043E 03 V.T.=-0.20000046E 01

S		1S		2S		P		2P
BASIS/ORB E	-301.30001		-63.75499	BASIS/ORB E		-61.79665		
1S	25.48410	0.97798	-0.32940	2P	11.79110	0.60004		
1S	42.41400	0.01719	0.00066	2P	18.87980	0.04697		
2S	11.79880	0.00564	0.33147	2P	10.76490	0.36004		
2S	20.77730	0.00759	-0.24748	2P	35.38370	0.00135		
2S	11.09740	-0.00466	0.90739					

*NICKEL 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.10877582E 04 P.E.=-0.21755146E 04
K.E.= 0.10877564E 04 V.T.=-0.20000017E 01

S		1S		2S		P		2P
BASIS/ORB E	-352.31440		-75.56761	BASIS/ORB E		-73.44027		
1S	27.49480	0.97936	-0.33290	2P	12.82810	0.59117		
1S	45.75720	0.01575	0.00152	2P	20.50900	0.04316		
2S	12.77740	0.00438	0.33848	2P	11.74590	0.37217		
2S	22.29180	0.00775	-0.25697	2P	38.28770	0.00123		
2S	12.07620	-0.00368	0.91030					

*VANADIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.72157560E 03 P.E.=-0.14431465E 04
K.E.= 0.72157088E 03 V.T.=-0.20000064E 01

S		1S		2S		P		2P
BASIS/ORB E	-232.27963		-47.91151	BASIS/ORB E		-46.20672		
1S	22.46800	0.97545	-0.32303	2P	10.23560	0.61423		
1S	37.39920	0.01985	-0.00087	2P	16.43590	0.05399		
2S	10.33100	0.00734	0.32568	2P	9.29350	0.33984		
2S	18.50550	0.00732	-0.23148	2P	31.02770	0.00157		
2S	9.62910	-0.00587	0.89643					

*MANGANESE 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.85904828E 03 P.E.=-0.17180920E 04
K.E.= 0.85904370E 03 V.T.=-0.20000052E 01

S		1S		2S		P		2P
BASIS/ORB E	-277.29308		-58.22377	BASIS/ORB E		-56.34994		
1S	24.47870	0.97720	-0.32744	2P	11.27260	0.60463		
1S	40.74240	0.01801	0.00019	2P	18.06510	0.04911		
2S	11.30950	0.00620	0.32901	2P	10.27450	0.35361		
2S	20.02000	0.00751	-0.24241	2P	33.93170	0.00141		
2S	10.60790	-0.00507	0.90454					

*COBALT 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.10085215E 04 P.E.=-0.20170388E 04
K.E.= 0.10085174E 04 V.T.=-0.20000040E 01

S		1S		2S		P		2P
BASIS/ORB E	-326.30716		-69.53628	BASIS/ORB E		-67.49343		
1S	26.48950	0.97869	-0.33121	2P	12.30960	0.59553		
1S	44.08560	0.01644	0.00110	2P	19.69440	0.04499		
2S	12.28810	0.00496	0.33473	2P	11.25540	0.36624		
2S	21.53460	0.00768	-0.25234	2P	36.83570	0.00129		
2S	11.58680	-0.00414	0.90921					

*COPPER 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.11699951E 04 P.E.=-0.23399866E 04
K.E.= 0.11699914E 04 V.T.=-0.20000031E 01

S		1S		2S		P		2P
BASIS/ORB E	-379.32172		-81.84897	BASIS/ORB E		-79.63715		
1S	28.50020	0.97998	-0.33447	2P	13.34660	0.58690		
1S	47.42880	0.01510	0.00190	2P	21.32360	0.04146		
2S	13.26670	0.00369	0.34269	2P	12.23640	0.37789		
2S	23.04910	0.00783	-0.26140	2P	39.73960	0.00118		
2S	12.56560	-0.00314	0.91072					

*ZINC 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.12552320E 04 P.E.=-0.25104582E 04
K.E.= 0.12552263E 04 V.T.=-0.20000046E 01

S		1S		P		2P
BASIS/ORB E	-407.32914	-88.38037	BASIS/ORB E	-86.08407		
1S	29.50560	0.98056	-0.33595	2P	13.86510	0.58279
1S	49.10040	0.01449	0.00227	2P	22.13830	0.03989
2S	13.75600	0.00306	0.34702	2P	12.72680	0.38335
2S	23.80640	0.00790	-0.26561	2P	41.19160	0.00114
2S	13.05510	-0.00264	0.91080			

*GERMANIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.14347062E 04 P.E.=-0.28694160E 04
K.E.= 0.14347099E 04 V.T.=-0.19999973E 01

S		1S		P		2P
BASIS/ORB E	-466.34419	-102.19327	BASIS/ORB E	-99.72802		
1S	31.51630	0.98161	-0.33861	2P	14.90220	0.57487
1S	52.44360	0.01341	0.00293	2P	23.76750	0.03704
2S	14.73460	0.00166	0.35768	2P	13.70780	0.39372
2S	25.32090	0.00804	-0.27357	2P	44.09560	0.00106
2S	14.03390	-0.00148	0.90845			

*SELENIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.16261806E 04 P.E.=-0.32523584E 04
K.E.= 0.16261779E 04 V.T.=-0.20000015E 01

S		1S		P		2P
BASIS/ORB E	-529.35972	-117.00631	BASIS/ORB E	-114.37214		
1S	33.52710	0.98253	-0.34098	2P	15.93920	0.56751
1S	55.78680	0.01245	0.00353	2P	25.39680	0.03453
2S	15.71310	0.00023	0.36923	2P	14.68870	0.40323
2S	26.83550	0.00817	-0.28085	2P	46.99960	0.00099
2S	15.01280	-0.00028	0.90451			

*KRYPTON 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.18296550E 04 P.E.=-0.36593094E 04
K.E.= 0.18296543E 04 V.T.=-0.20000003E 01

S		1S		P		2P
BASIS/ORB E	-596.37526	-132.81937	BASIS/ORB E	-130.01630		
1S	35.53780	0.98335	-0.34307	2P	16.97620	0.56050
1S	59.13000	0.01160	0.00405	2P	27.02600	0.03233
2S	16.69170	-0.00121	0.38268	2P	15.66970	0.41213
2S	28.35000	0.00828	-0.28762	2P	49.90360	0.00094
2S	15.99160	0.00096	0.89812			

*GALLIUM 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.13434690E 04 P.E.=-0.26869351E 04
K.E.= 0.13434660E 04 V.T.=-0.20000023E 01

S		1S		P		2P
BASIS/ORB E	-436.33666	-95.16181	BASIS/ORB E	-92.78104		
1S	30.51090	0.98111	-0.33732	2P	14.38360	0.57881
1S	50.77200	0.01393	0.00261	2P	22.95290	0.03841
2S	14.24530	0.00242	0.35217	2P	13.21730	0.38860
2S	24.56360	0.00796	-0.26968	2P	42.64360	0.00110
2S	13.54450	-0.00212	0.90990			

*ARSENIC 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.15289433E 04 P.E.=-0.30578848E 04
K.E.= 0.15289415E 04 V.T.=-0.20000011E 01

S		1S		P		2P
BASIS/ORB E	-497.35188	-109.47475	BASIS/ORB E	-106.92506		
1S	32.52170	0.98209	-0.33983	2P	15.42070	0.57111
1S	54.11520	0.01291	0.00323	2P	24.58210	0.03575
2S	15.22380	0.00097	0.36349	2P	14.19830	0.39859
2S	26.07820	0.00810	-0.27729	2P	45.54760	0.00103
2S	14.52330	-0.00091	0.90654			

*BROMINE 1S(2)2S(2)2P(2), 6-3P
T.E.=-0.17264177E 04 P.E.=-0.34528340E 04
K.E.= 0.17264163E 04 V.T.=-0.20000007E 01

S		1S		P		2P
BASIS/ORB E	-562.36742	-124.78783	BASIS/ORB E	-122.06920		
1S	34.53240	0.98295	-0.34206	2P	16.45770	0.56394
1S	57.45840	0.01201	0.00380	2P	26.21140	0.03340
2S	16.20240	-0.00058	0.37582	2P	15.17920	0.40777
2S	27.59270	0.00824	-0.28430	2P	48.45160	0.00096
2S	15.50220	0.00042	0.90152			

*CARBON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.37631301E 02 P.E.=-0.75261387E 02
K.E.= 0.37630086E 02 V.T.=-0.20000322E 01

S		1S		2S	P		2P
BASIS/ORB	E	-11.35172	-0.71871		BASIS/ORB	E	-0.38143
1S	5.40210	0.92028	-0.20619		2P	1.41470	0.50052
1S	9.15000	0.08261	-0.01348		2P	2.55450	0.25051
2S	2.10000	0.00386	0.57008		2P	0.93720	0.31924
2S	4.74390	0.00433	-0.08136		2P	6.30210	0.01097
2S	1.31680	-0.00099	0.53073				

*OXYGEN 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.72997203E 02 P.E.=-0.14599398E 03
K.E.= 0.72996779E 02 V.T.=-0.20000058E 01

S		1S		2S	P		2P
BASIS/ORB	E	-22.28334	-2.48895		BASIS/ORB	E	-1.94546
1S	7.41129	0.93691	-0.25215		2P	2.46018	0.60640
1S	12.43860	0.06157	-0.00661		2P	4.32287	0.17422
2S	3.06667	0.00584	0.48289		2P	1.89508	0.25701
2S	6.31492	0.00698	-0.10187		2P	9.63529	0.00554
2S	2.29568	-0.00245	0.62483				

*NEON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.12039699E 03 P.E.=-0.24079265E 03
K.E.= 0.12039567E 03 V.T.=-0.20000110E 01

S		1S		2S	P		2P
BASIS/ORB	E	-37.26029	-5.28472		BASIS/ORB	E	-4.52962
1S	9.42049	0.94771	-0.27708		2P	3.50566	0.64432
1S	15.72720	0.04889	-0.00376		2P	6.09123	0.13119
2S	4.03333	0.00659	0.43900		2P	2.85296	0.25141
2S	7.88594	0.00797	-0.12835		2P	12.96850	0.00310
2S	3.27456	-0.00345	0.68991				

*MAGNESIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.17981020E 03 P.E.=-0.35961889E 03
K.E.= 0.17980868E 03 V.T.=-0.20000083E 01

S		1S		2S	P		2P
BASIS/ORB	E	-56.25365	-9.08835		BASIS/ORB	E	-8.12126
1S	11.42970	0.95527	-0.29299		2P	4.55114	0.65870
1S	19.01570	0.04042	-0.00200		2P	7.85960	0.10426
2S	5.00000	0.00674	0.41229		2P	3.81084	0.25830
2S	9.45696	0.00840	-0.15263		2P	16.30170	0.00191
2S	4.25344	-0.00403	0.73829				

*NITROGEN 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.53807352E 02 P.E.=-0.10761400E 03
K.E.= 0.53806658E 02 V.T.=-0.20000128E 01

S		1S		2S	P		2P
BASIS/ORB	E	-16.30776	-1.47287		BASIS/ORB	E	-1.03417
1S	6.40670	0.92957	-0.23328		2P	1.93744	0.56822
1S	10.79430	0.07061	-0.00905		2P	3.43868	0.20655
2S	2.58333	0.00506	0.51703		2P	1.41614	0.27342
2S	5.52941	0.00601	-0.08947		2P	7.96870	0.00772
2S	1.80624	-0.00177	0.58329				

*FLUORINE 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.95194712E 02 P.E.=-0.19038893E 03
K.E.= 0.95194215E 02 V.T.=-0.20000052E 01

S		1S		2S	P		2P
BASIS/ORB	E	-29.26884	-3.76036		BASIS/ORB	E	-3.11119
1S	8.41589	0.94283	-0.26618		2P	2.98292	0.62974
1S	14.08290	0.05453	-0.00498		2P	5.20705	0.14994
2S	3.55000	0.00632	0.45803		2P	2.37402	0.25157
2S	7.10043	0.00758	-0.11521		2P	11.30190	0.00409
2S	2.78512	-0.00301	0.65987				

*SODIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.14860246E 03 P.E.=-0.29720379E 03
K.E.= 0.14860131E 03 V.T.=-0.20000077E 01

S		1S		2S	P		2P
BASIS/ORB	E	-46.25562	-7.06092		BASIS/ORB	E	-6.19982
1S	10.42510	0.95180	-0.28581		2P	4.02840	0.65334
1S	17.37140	0.04427	-0.00280		2P	6.97542	0.11632
2S	4.51667	0.00672	0.42409		2P	3.33190	0.25407
2S	8.67145	0.00822	-0.14087		2P	14.63510	0.00241
2S	3.76400	-0.00379	0.71583				

*ALUMINUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.21401957E 03 P.E.=-0.42803738E 03
K.E.= 0.21401782E 03 V.T.=-0.20000082E 01

S		1S		2S	P		2P
BASIS/ORB	E	-67.25361	-11.36665		BASIS/ORB	E	-10.29360
1S	12.43430	0.95826	-0.29899		2P	5.07388	0.66157
1S	20.66000	0.03716	-0.00131		2P	8.74378	0.09431
2S	5.48333	0.00667	0.40290		2P	4.28978	0.26340
2S	10.24250	0.00853	-0.16359		2P	17.96830	0.00154
2S	4.74288	-0.00418	0.75780				

TABLE 08- 02

*SILICON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.25123017E 03 P.E.=-0.50245816E 03
K.E.= 0.25122797E 03 V.T.=-0.20000087E 01

S	1S	2S	P	2P
BASIS/ORB E	-79.25505	-13.89558	BASIS/ORB E	-12.71662
1S 13.43890	0.96085	-0.30411	2P 5.59662	0.66276
1S 22.30430	0.03436	-0.00072	2P 9.62797	0.08596
2S 5.96667	0.00653	0.39548	2P 4.76872	0.26894
2S 11.02800	0.00861	-0.17378	2P 19.63490	0.00127
2S 5.23232	-0.00427	0.77477		

*SULFUR 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.33465408E 03 P.E.=-0.66930418E 03
K.E.= 0.33465009E 03 V.T.=-0.20000119E 01

S	1S	2S	P	2P
BASIS/ORB E	-106.26104	-19.70478	BASIS/ORB E	-18.31409
1S 15.44810	0.96514	-0.31235	2P 6.64210	0.66195
1S 25.59290	0.02981	0.00027	2P 11.39630	0.07276
2S 6.93333	0.00610	0.38522	2P 5.72660	0.28041
2S 12.59900	0.00872	-0.19203	2P 22.96810	0.00090
2S 6.21120	-0.00426	0.80237		

*ARGON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.43008044E 03 P.E.=-0.86015563E 03
K.E.= 0.43007518E 03 V.T.=-0.20000122E 01

S	1S	2S	P	2P
BASIS/ORB E	-137.26988	-26.51517	BASIS/ORB E	-24.91289
1S 17.45730	0.96853	-0.31871	2P 7.68758	0.65879
1S 28.88150	0.02628	0.00106	2P 13.16470	0.06281
2S 7.90000	0.00550	0.37966	2P 6.68448	0.29164
2S 14.17000	0.00878	-0.20780	2P 26.30130	0.00067
2S 7.19008	-0.00404	0.82312		

*CALCIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.53750845E 03 P.E.=-0.10750134E 04
K.E.= 0.53750493E 03 V.T.=-0.20000064E 01

S	1S	2S	P	2P
BASIS/ORB E	-172.28059	-34.32633	BASIS/ORB E	-32.51257
1S 19.46650	0.97128	-0.32377	2P 8.73306	0.65452
1S 32.17010	0.02344	0.00171	2P 14.93310	0.05505
2S 8.86667	0.00482	0.37752	2P 7.64236	0.30219
2S 15.74100	0.00881	-0.22151	2P 29.63450	0.00053
2S 8.16896	-0.00368	0.83856		

*PHOSPHORUS 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.29144175E 03 P.E.=-0.58288107E 03
K.E.= 0.29143932E 03 V.T.=-0.20000082E 01

S	1S	2S	P	2P
BASIS/ORB E	-92.25760	-16.67500	BASIS/ORB E	-15.39015
1S 14.44350	0.96313	-0.30851	2P 6.11936	0.66277
1S 23.94860	0.03194	-0.00020	2P 10.51220	0.07886
2S 6.45000	0.00634	0.38967	2P 5.24766	0.27465
2S 11.81350	0.00868	-0.18324	2P 21.30150	0.00106
2S 5.72176	-0.00429	0.78954		

*CHLORINE 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.38086702E 03 P.E.=-0.76173128E 03
K.E.= 0.38086427E 03 V.T.=-0.20000071E 01

S	1S	2S	P	2P
BASIS/ORB E	-121.26514	-22.98485	BASIS/ORB E	-21.48835
1S 16.45270	0.96693	-0.31572	2P 7.16484	0.66057
1S 27.23720	0.02794	0.00068	2P 12.28050	0.06746
2S 7.41667	0.00582	0.38193	2P 6.20554	0.28609
2S 13.38450	0.00876	-0.20020	2P 24.63470	0.00077
2S 6.70064	-0.00417	0.81350		

*POTASSIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.48229428E 03 P.E.=-0.96458568E 03
K.E.= 0.48229139E 03 V.T.=-0.20000059E 01

S	1S	2S	P	2P
BASIS/ORB E	-154.27500	-30.29566	BASIS/ORB E	-28.58763
1S 18.46190	0.96997	-0.32138	2P 8.21032	0.65675
1S 30.52580	0.02478	0.00140	2P 14.04890	0.05870
2S 8.38333	0.00516	0.37819	2P 7.16342	0.29701
2S 14.95550	0.00880	-0.21489	2P 27.96790	0.00059
2S 7.67952	-0.00387	0.83146		

*SCANDIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.59572291E 03 P.E.=-0.11914430E 04
K.E.= 0.59572009E 03 V.T.=-0.20000046E 01

S	1S	2S	P	2P
BASIS/ORB E	-191.28642	-38.60712	BASIS/ORB E	-36.68765
1S 20.47100	0.97247	-0.32594	2P 9.25580	0.65220
1S 33.81430	0.02223	0.00199	2P 15.81720	0.05178
2S 9.35000	0.00441	0.37756	2P 8.12130	0.30717
2S 16.52650	0.00882	-0.22770	2P 31.30100	0.00048
2S 8.65840	-0.00343	0.84457		

*TITANIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.65693764E 03 P.E.=-0.13138722E 04
K.E.= 0.65693458E 03 V.T.=-0.20000046E 01

S	1S	2S	P	2P
BASIS/ORB E	-211.29260	-43.13803	BASIS/ORB E	-41.11287
1S 21.47560	0.97356	-0.32791	2P 9.77854	0.64980
1S 35.45860	0.02112	0.00226	2P 16.70140	0.04884
2S 9.83333	0.00401	0.37809	2P 8.60024	0.31195
2S 17.31210	0.00882	-0.23349	2P 32.96760	0.00044
2S 9.14784	-0.00317	0.84970		

*CHROMIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.78836767E 03 P.E.=-0.15767325E 04
K.E.= 0.78836495E 03 V.T.=-0.20000034E 01

S	1S	2S	P	2P
BASIS/ORB E	-254.30560	-52.95011	BASIS/ORB E	-50.71363
1S 23.48480	0.97547	-0.33135	2P 10.82400	0.64499
1S 38.74720	0.01919	0.00273	2P 18.46980	0.04375
2S 10.80000	0.00311	0.38093	2P 9.55812	0.32089
2S 18.88310	0.00883	-0.24405	2P 36.30080	0.00038
2S 10.12670	-0.00253	0.85721		

*IRON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.93179831E 03 P.E.=-0.18635976E 04
K.E.= 0.93179939E 03 V.T.=-0.19999988E 01

S	1S	2S	P	2P
BASIS/ORB E	-301.31927	-63.76247	BASIS/ORB E	-61.31471
1S 25.49400	0.97711	-0.33426	2P 11.86950	0.64023
1S 42.03580	0.01755	0.00313	2P 20.23820	0.03952
2S 11.76670	0.00215	0.38568	2P 10.51600	0.32908
2S 20.45410	0.00883	-0.25343	2P 39.63400	0.00034
2S 11.10560	-0.00180	0.86169		

*NICKEL 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.10872295E 04 P.E.=-0.21744578E 04
K.E.= 0.10872284E 04 V.T.=-0.20000009E 01

S	1S	2S	P	2P
BASIS/ORB E	-352.33358	-75.57507	BASIS/ORB E	-72.91606
1S 27.50320	0.97851	-0.33674	2P 12.91500	0.63564
1S 45.32440	0.01614	0.00348	2P 22.00650	0.03593
2S 12.73330	0.00108	0.39217	2P 11.47390	0.33657
2S 22.02510	0.00883	-0.26181	2P 42.96720	0.00031
2S 12.08450	-0.00094	0.86345		

*VANADIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.72115254E 03 P.E.=-0.14423051E 04
K.E.= 0.72115250E 03 V.T.=-0.20000000E 01

S	1S	2S	P	2P
BASIS/ORB E	-232.29894	-47.91903	BASIS/ORB E	-45.78819
1S 22.48020	0.97456	-0.32971	2P 10.30130	0.64739
1S 37.10290	0.02011	0.00250	2P 17.58560	0.04617
2S 10.31670	0.00358	0.37920	2P 9.07918	0.31652
2S 18.09760	0.00882	-0.23893	2P 34.63420	0.00041
2S 9.63728	-0.00287	0.85392		

*MANGANESE 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.85858291E 03 P.E.=-0.17171676E 04
K.E.= 0.85858479E 03 V.T.=-0.19999977E 01

S	1S	2S	P	2P
BASIS/ORB E	-277.31232	-58.23125	BASIS/ORB E	-55.88913
1S 24.48940	0.97632	-0.33286	2P 11.34680	0.64256
1S 40.39150	0.01834	0.00294	2P 19.35400	0.04154
2S 11.28330	0.00261	0.38307	2P 10.03710	0.32511
2S 19.66860	0.00884	-0.24888	2P 37.96740	0.00036
2S 10.61620	-0.00215	0.85982		

*COBALT 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.10080138E 04 P.E.=-0.20160255E 04
K.E.= 0.10080115E 04 V.T.=-0.20000021E 01

S	1S	2S	P	2P
BASIS/ORB E	-326.32640	-69.54375	BASIS/ORB E	-66.99037
1S 26.49860	0.97783	-0.33555	2P 12.39220	0.63795
1S 43.68010	0.01682	0.00332	2P 21.12230	0.03765
2S 12.25000	0.00161	0.38860	2P 10.99490	0.33287
2S 21.23960	0.00883	-0.25771	2P 41.30060	0.00032
2S 11.59500	-0.00137	0.86299		

*COPPER 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.11694451E 04 P.E.=-0.23388888E 04
K.E.= 0.11694436E 04 V.T.=-0.20000013E 01

S	1S	2S	P	2P
BASIS/ORB E	-379.34090	-81.85644	BASIS/ORB E	-79.09183
1S 28.50780	0.97914	-0.33787	2P 13.43770	0.63347
1S 46.96870	0.01551	0.00365	2P 22.89070	0.03434
2S 13.21670	0.00053	0.39564	2P 11.95280	0.34003
2S 22.81060	0.00883	-0.26563	2P 44.63380	0.00030
2S 12.57390	-0.00049	0.86377		

TABLE 08- 04

*ZINC 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.12546609E 04 P.E.=-0.25093208E 04
K.E.= 0.12546597E 04 V.T.=-0.20000008E 01

S	1S	2S	P	2P
BASIS/ORB E	-407.34829	-88.38784	BASIS/ORB E	-85.51764
1S 29.51240	0.97974	-0.33891	2P 13.96050	0.63128
1S 48.61300	0.01493	0.00380	2P 23.77490	0.03286
2S 13.70000	0.	0.39960	2P 12.43180	0.34342
2S 23.59610	0.00883	-0.26927	2P 46.30040	0.00030
2S 13.06340	-0.00005	0.86342		

*GERMANIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.14340929E 04 P.E.=-0.28681862E 04
K.E.= 0.14340933E 04 V.T.=-0.19999996E 01

S	1S	2S	P	2P
BASIS/ORB E	-466.36337	-102.20072	BASIS/ORB E	-99.11935
1S 31.52160	0.98082	-0.34079	2P 15.00590	0.62722
1S 51.90150	0.01386	0.00408	2P 25.54330	0.03020
2S 14.66670	-0.00114	0.40895	2P 13.38960	0.34963
2S 25.16720	0.00882	-0.27605	2P 49.63360	0.00029
2S 14.04220	0.00093	0.86077		

*SELENIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.16255248E 04 P.E.=-0.32510494E 04
K.E.= 0.16255245E 04 V.T.=-0.20000003E 01

S	1S	2S	P	2P
BASIS/ORB E	-529.37872	-117.01375	BASIS/ORB E	-113.72123
1S 33.53080	0.98178	-0.34247	2P 16.05140	0.62331
1S 55.19010	0.01292	0.00433	2P 27.31160	0.02788
2S 15.63330	-0.00238	0.41881	2P 14.34750	0.35541
2S 26.73820	0.00882	-0.28214	2P 52.96680	0.00028
2S 15.02110	0.00202	0.85696		

*KRYPTON 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.18289573E 04 P.E.=-0.36579149E 04
K.E.= 0.18289576E 04 V.T.=-0.19999997E 01

S	1S	2S	P	2P
BASIS/ORB E	-596.39432	-132.82684	BASIS/ORB E	-129.32319
1S 35.54000	0.98263	-0.34394	2P 17.09690	0.61965
1S 58.47870	0.01208	0.00455	2P 29.08000	0.02583
2S 16.60000	-0.00360	0.43041	2P 15.30540	0.36073
2S 28.30920	0.00880	-0.28774	2P 56.30000	0.00028
2S 16.00000	0.00311	0.85091		

*GALLIUM 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.13428769E 04 P.E.=-0.26857474E 04
K.E.= 0.13428704E 04 V.T.=-0.20000046E 01

S	1S	2S	P	2P
BASIS/ORB E	-436.35583	-95.16928	BASIS/ORB E	-92.19349
1S 30.51700	0.98030	-0.33988	2P 14.48320	0.62923
1S 50.25720	0.01437	0.00395	2P 24.65910	0.03149
2S 14.18330	-0.00054	0.40409	2P 12.91070	0.34659
2S 24.38160	0.00882	-0.27274	2P 47.96700	0.00029
2S 13.55280	0.00041	0.86236		

*ARSENIC 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.15283088E 04 P.E.=-0.30566131E 04
K.E.= 0.15283043E 04 V.T.=-0.20000029E 01

S	1S	2S	P	2P
BASIS/ORB E	-497.37102	-109.48223	BASIS/ORB E	-106.29527
1S 32.52620	0.98131	-0.34165	2P 15.52870	0.62521
1S 53.54580	0.01337	0.00421	2P 26.42740	0.02900
2S 15.15000	-0.00176	0.41378	2P 13.86860	0.35261
2S 25.95270	0.00882	-0.27918	2P 51.30020	0.00028
2S 14.53170	0.00147	0.85904		

*BROMINE 1S(2)2S(2)2P(2), 6-1D
T.E.=-0.17257410E 04 P.E.=-0.34514835E 04
K.E.= 0.17257424E 04 V.T.=-0.19999991E 01

S	1S	2S	P	2P
BASIS/ORB E	-562.38647	-124.79528	BASIS/ORB E	-121.39718
1S 34.53540	0.98222	-0.34322	2P 16.57420	0.62145
1S 56.83440	0.01248	0.00444	2P 28.19580	0.02682
2S 16.11670	-0.00298	0.42459	2P 14.82650	0.35814
2S 27.52370	0.00881	-0.28503	2P 54.63340	0.00028
2S 15.51060	0.00255	0.85402		

*CARBON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.37549493E 02 P.E.=-0.75098401E 02
K.E.= 0.37548909E 02 V.T.=-0.20000155E 01

S		1S		2S		P		2P
BASIS/ORB	E	-11.39158		-0.73951	BASIS/ORB	E	1.10600	-0.31015
1S	5.39310	0.92183		-0.21013	2P	1.10600		0.68336
1S	9.15000	0.08301		-0.01277	2P	0.50740		0.05454
2S	2.10000	0.00379		0.60804	2P	2.35900		0.35050
2S	4.61300	0.00200		-0.08641	2P	6.20000		0.01236
2S	1.30090	-0.00096		0.50010				

*OXYGEN 1S(2)2S(2)2P(2),6-1S
T.E.=-0.72846244E 02 P.E.=-0.14568996E 03
K.E.= 0.72843730E 02 V.T.=-0.20000345E 01

S		1S		2S		P		2P
BASIS/ORB	E	-22.31749		-2.50400	BASIS/ORB	E	2.15237	-1.80391
1S	7.41180	0.94170		-0.25469	2P	2.15237		0.76083
1S	12.61450	0.05820		-0.00559	2P	1.47775		0.02648
2S	3.06667	0.00627		0.52798	2P	4.01917		0.25562
2S	6.19275	0.00503		-0.10719	2P	9.45333		0.00614
2S	2.26751	-0.00266		0.58667				

*NEON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.12018047E 03 P.E.=-0.24035755E 03
K.E.= 0.12017707E 03 V.T.=-0.20000283E 01

S		1S		2S		P		2P
BASIS/ORB	E	-37.29249		-5.29820	BASIS/ORB	E	3.19875	-4.32217
1S	9.43050	0.95289		-0.27871	2P	3.19875		0.79956
1S	16.07910	0.04440		-0.00284	2P	2.44809		0.03695
2S	4.03333	0.00718		0.49883	2P	5.67935		0.19390
2S	7.77249	0.00685		-0.13451	2P	12.70670		0.00355
2S	3.23411	-0.00377		0.63708				

*MAGNESIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.17952914E 03 P.E.=-0.35905422E 03
K.E.= 0.17952508E 03 V.T.=-0.20000225E 01

S		1S		2S		P		2P
BASIS/ORB	E	-56.28482		-9.10110	BASIS/ORB	E	4.24512	-7.84909
1S	11.44920	0.96010		-0.29393	2P	4.24512		0.81279
1S	19.54360	0.03563		-0.00123	2P	3.41844		0.05697
2S	5.00000	0.00717		0.48813	2P	7.33952		0.15414
2S	9.35224	0.00813		-0.15931	2P	15.96000		0.00228
2S	4.20072	-0.00427		0.66938				

*NITROGEN 1S(2)2S(2)2P(2),6-1S
T.E.=-0.53690086E 02 P.E.=-0.10737815E 03
K.E.= 0.53688063E 02 V.T.=-0.20000375E 01

S		1S		2S		P		2P
BASIS/ORB	E	-16.34379		-1.48965	BASIS/ORB	E	1.62919	-0.92668
1S	6.40245	0.93339		-0.23643	2P	1.62919		0.72636
1S	10.88230	0.06855		-0.00806	2P	0.99257		0.03037
2S	2.58333	0.00529		0.55653	2P	3.18909		0.29926
2S	5.40287	0.00375		-0.09437	2P	7.82667		0.00852
2S	1.78420	-0.00186		0.55075				

*FLUORINE 1S(2)2S(2)2P(2),6-1S
T.E.=-0.95010781E 02 P.E.=-0.19001860E 03
K.E.= 0.95007820E 02 V.T.=-0.20000311E 01

S		1S		2S		P		2P
BASIS/ORB	E	-29.30184		-3.77444	BASIS/ORB	E	2.67556	-2.93647
1S	8.42115	0.94798		-0.26823	2P	2.67556		0.78445
1S	14.34680	0.05044		-0.00399	2P	1.96292		0.02981
2S	3.55000	0.00687		0.51018	2P	4.84926		0.22117
2S	6.98262	0.00603		-0.12099	2P	11.08000		0.00460
2S	2.75081	-0.00329		0.61469				

*SODIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.14835361E 03 P.E.=-0.29670346E 03
K.E.= 0.14834984E 03 V.T.=-0.20000254E 01

S		1S		2S		P		2P
BASIS/ORB	E	-46.28724		-7.07398	BASIS/ORB	E	3.72193	-5.95992
1S	10.43980	0.95685		-0.28708	2P	3.72193		0.80842
1S	17.81140	0.03958		-0.00196	2P	2.93327		0.04630
2S	4.51667	0.00727		0.49186	2P	6.50943		0.17201
2S	8.56237	0.00753		-0.14733	2P	14.33330		0.00281
2S	3.71742	-0.00409		0.65505				

*ALUMINUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.21370643E 03 P.E.=-0.42740837E 03
K.E.= 0.21370193E 03 V.T.=-0.20000210E 01

S		1S		2S		P		2P
BASIS/ORB	E	-67.28443		-11.37916	BASIS/ORB	E	4.76831	-9.98928
1S	12.45850	0.96283		-0.29965	2P	4.76831		0.81392
1S	21.27590	0.03234		-0.00064	2P	3.90361		0.06838
2S	5.48333	0.00694		0.48685	2P	8.16961		0.13935
2S	10.14210	0.00864		-0.17042	2P	17.58670		0.00189
2S	4.68402	-0.00432		0.68071				

*SILICON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.25088502E 03 P.E.=-0.50176547E 03
K.E.= 0.25088045E 03 V.T.=-0.20000181E 01

S		1S		2S		P		2P
BASIS/ORB E		-79.28555		-13.90791	BASIS/ORB E		-12.38024
1S	13.46790	0.96515		-0.30449	2P	5.29149	0.81274
1S	23.00820	0.02956		-0.00012	2P	4.38879	0.08013
2S	5.96667	0.00659		0.48748	2P	8.99969	0.12692
2S	10.93200	0.00911		-0.18070	2P	19.21330	0.00159
2S	5.16733	-0.00426		0.68949			

*SULFUR 1S(2)2S(2)2P(2),6-1S
T.E.=-0.33424506E 03 P.E.=-0.66848531E 03
K.E.= 0.33424026E 03 V.T.=-0.20000143E 01

S		1S		2S		P		2P
BASIS/ORB E		-106.29108		-19.71683	BASIS/ORB E		-17.91379
1S	15.48660	0.96888		-0.31226	2P	6.33787	0.80587
1S	26.47270	0.02512		0.00070	2P	5.35913	0.10376
2S	6.93333	0.00564		0.49318	2P	10.65990	0.10729
2S	12.51170	0.00990		-0.19899	2P	22.46670	0.00118
2S	6.13393	-0.00388		0.70083			

*ARGON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.42960770E 03 P.E.=-0.85920937E 03
K.E.= 0.42960165E 03 V.T.=-0.20000140E 01

S		1S		2S		P		2P
BASIS/ORB E		-137.29959		-26.52703	BASIS/ORB E		-24.44883
1S	17.50530	0.97175		-0.31823	2P	7.38424	0.79559
1S	29.93730	0.02172		0.00135	2P	6.32948	0.12666
2S	7.90000	0.00443		0.50317	2P	12.32000	0.09254
2S	14.09150	0.01055		-0.21470	2P	25.72000	0.00092
2S	7.10054	-0.00321		0.70565			

*CALCIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.53697208E 03 P.E.=-0.10739437E 04
K.E.= 0.53697173E 03 V.T.=-0.20000006E 01

S		1S		2S		P		2P
BASIS/ORB E		-172.30996		-34.33803	BASIS/ORB E		-31.98485
1S	19.52400	0.97404		-0.32295	2P	8.43061	0.78375
1S	33.40180	0.01905		0.00187	2P	7.29983	0.14831
2S	8.86667	0.00303		0.51624	2P	13.98020	0.08107
2S	15.67120	0.01110		-0.22827	2P	28.97330	0.00075
2S	8.06715	-0.00229		0.70550			

*PHOSPHORUS 1S(2)2S(2)2P(2),6-1S
T.E.=-0.29106463E 03 P.E.=-0.58212464E 03
K.E.= 0.29105999E 03 V.T.=-0.20000158E 01

S		1S		2S		P		2P
BASIS/ORB E		-92.28785		-16.68717	BASIS/ORB E		-15.02178
1S	14.47720	0.96715		-0.30865	2P	5.81468	0.80988
1S	24.74050	0.02718		0.00032	2P	4.87396	0.09200
2S	6.45000	0.00616		0.48968	2P	9.82978	0.11636
2S	11.72190	0.00952		-0.19019	2P	20.84000	0.00136
2S	5.65063	-0.00412		0.69610			

*CHLORINE 1S(2)2S(2)2P(2),6-1S
T.E.=-0.38042612E 03 P.E.=-0.76084713E 03
K.E.= 0.38042100E 03 V.T.=-0.20000134E 01

S		1S		2S		P		2P
BASIS/ORB E		-121.29499		-22.99679	BASIS/ORB E		-21.05615
1S	16.49590	0.97041		-0.31543	2P	6.86105	0.80102
1S	28.20500	0.02331		0.00105	2P	5.84431	0.11534
2S	7.41667	0.00507		0.49772	2P	11.49000	0.09941
2S	13.30160	0.01023		-0.20714	2P	24.09330	0.00104
2S	6.61724	-0.00358		0.70395			

*POTASSIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.48178972E 03 P.E.=-0.96357499E 03
K.E.= 0.48178526E 03 V.T.=-0.20000093E 01

S		1S		2S		P		2P
BASIS/ORB E		-154.30459		-30.30744	BASIS/ORB E		-28.09174
1S	18.51460	0.97296		-0.32072	2P	7.90743	0.78980
1S	31.66960	0.02031		0.00163	2P	6.81465	0.13765
2S	8.38333	0.00377		0.50934	2P	13.15010	0.08646
2S	14.88140	0.01083		-0.22171	2P	27.34670	0.00083
2S	7.58384	-0.00280		0.70615			

*SCANDIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.59515479E 03 P.E.=-0.11903059E 04
K.E.= 0.59515124E 03 V.T.=-0.20000059E 01

S		1S		2S		P		2P
BASIS/ORB E		-191.31579		-38.61878	BASIS/ORB E		-36.12815
1S	20.53330	0.97501		-0.32497	2P	8.95380	0.77757
1S	35.13410	0.01791		0.00210	2P	7.78500	0.15860
2S	9.35000	0.00229		0.52366	2P	14.81030	0.07626
2S	16.46110	0.01134		-0.23437	2P	30.60000	0.00069
2S	8.55045	-0.00178		0.70392			

TABLE 09- 03

*TITANIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.65633775E 03 P.E.=-0.13126723E 04
K.E.= 0.65633453E 03 V.T.=-0.20000049E 01

S		1S		2S		P		2P
BASIS/ORB	E	-211.32184		-43.14963	BASIS/ORB	E	-40.52159	
1S	21.54270	0.97589		-0.32679	2P	9.47699	0.77134	
1S	36.86640	0.01688		0.00231	2P	8.27017	0.16853	
2S	9.83333	0.00149		0.53155	2P	15.64040	0.07194	
2S	17.25100	0.01157		-0.24007	2P	32.22670	0.00063	
2S	9.03375	-0.00120		0.70150				

*CHROMIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.78770428E 03 P.E.=-0.15754078E 04
K.E.= 0.78770366E 03 V.T.=-0.20000007E 01

S		1S		2S		P		2P
BASIS/ORB	E	-254.33467		-52.96162	BASIS/ORB	E	-50.05882	
1S	23.56140	0.97743		-0.32997	2P	10.52340	0.75891	
1S	40.33090	0.01509		0.00267	2P	9.24052	0.18733	
2S	10.80000	-0.00016		0.54861	2P	17.30060	0.06450	
2S	18.83070	0.01198		-0.25043	2P	35.48000	0.00055	
2S	10.00040	0.00005		0.69441				

*IRON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.93107145E 03 P.E.=-0.18621424E 04
K.E.= 0.93107095E 03 V.T.=-0.20000004E 01

S		1S		2S		P		2P
BASIS/ORB	E	-301.34826		-63.77392	BASIS/ORB	E	-60.59644	
1S	25.58010	0.97873		-0.33265	2P	11.56970	0.74684	
1S	43.79550	0.01359		0.00298	2P	10.21090	0.20467	
2S	11.76670	-0.00185		0.56699	2P	18.96070	0.05833	
2S	20.41050	0.01234		-0.25958	2P	38.73330	0.00049	
2S	10.96700	0.00139		0.68487				

*NICKEL 1S(2)2S(2)2P(2),6-1S
T.E.=-0.10864392E 04 P.E.=-0.21728776E 04
K.E.= 0.10864384E 04 V.T.=-0.20000006E 01

S		1S		2S		P		2P
BASIS/ORB	E	-352.36246		-75.58646	BASIS/ORB	E	-72.13435	
1S	27.59880	0.97984		-0.33494	2P	12.61610	0.73519	
1S	47.26000	0.01231		0.00325	2P	11.18120	0.22075	
2S	12.73330	-0.00366		0.58655	2P	20.62090	0.05314	
2S	21.99020	0.01266		-0.26771	2P	41.98670	0.00044	
2S	11.93360	0.00287		0.67319				

*VANADIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.72052088E 03 P.E.=-0.14410389E 04
K.E.= 0.72051807E 03 V.T.=-0.20000038E 01

S		1S		2S		P		2P
BASIS/ORB	E	-232.32816		-47.93058	BASIS/ORB	E	-45.16516	
1S	22.55200	0.97670		-0.32846	2P	10.00020	0.76510	
1S	38.59860	0.01594		0.00250	2P	8.75535	0.17811	
2S	10.31670	0.00070		0.53986	2P	16.47050	0.06804	
2S	18.04080	0.01178		-0.24541	2P	33.85330	0.00059	
2S	9.51706	-0.00061		0.69833				

*MANGANESE 1S(2)2S(2)2P(2),6-1S
T.E.=-0.85788775E 03 P.E.=-0.17157741E 04
K.E.= 0.85788628E 03 V.T.=-0.20000017E 01

S		1S		2S		P		2P
BASIS/ORB	E	-277.34139		-58.24274	BASIS/ORB	E	-55.20259	
1S	24.57070	0.97811		-0.33137	2P	11.04650	0.75284	
1S	42.06320	0.01431		0.00283	2P	9.72569	0.19615	
2S	11.28330	-0.00100		0.55765	2P	18.13060	0.06128	
2S	19.62060	0.01216		-0.25514	2P	37.10670	0.00052	
2S	10.48370	0.00071		0.68992				

*COBALT 1S(2)2S(2)2P(2),6-1S
T.E.=-0.10072552E 04 P.E.=-0.20145036E 04
K.E.= 0.10072484E 04 V.T.=-0.20000067E 01

S		1S		2S		P		2P
BASIS/ORB	E	-326.35536		-69.55518	BASIS/ORB	E	-66.24038	
1S	26.58940	0.97931		-0.33384	2P	12.09290	0.74094	
1S	45.52770	0.01292		0.00312	2P	10.69600	0.21287	
2S	12.25000	-0.00274		0.57661	2P	19.79080	0.05563	
2S	21.20030	0.01250		-0.26376	2P	40.36000	0.00046	
2S	11.45030	0.00211		0.67930				

*COPPER 1S(2)2S(2)2P(2),6-1S
T.E.=-0.11686230E 04 P.E.=-0.23372485E 04
K.E.= 0.11686254E 04 V.T.=-0.19999980E 01

S		1S		2S		P		2P
BASIS/ORB	E	-379.36963		-81.86777	BASIS/ORB	E	-78.27838	
1S	28.60810	0.98034		-0.33596	2P	13.13930	0.72957	
1S	48.99230	0.01174		0.00337	2P	11.66640	0.22833	
2S	13.21670	-0.00461		0.59660	2P	21.45100	0.05084	
2S	22.78010	0.01281		-0.27145	2P	43.61330	0.00043	
2S	12.41690	0.00366		0.66677				

*ZINC 1S(2)2S(2)2P(2),6-1S
T.E.=-0.12538072E 04 P.E.=-0.25076196E 04
K.E.= 0.12538124E 04 V.T.=-0.19999959E 01

S		1S		2S		P		2P
BASIS/ORB E	-407.37705		-88.39916	BASIS/ORB E	-84.67249			
1S	29.61750	0.98080	-0.33691	2P	13.66250	0.72409		
1S	50.72460	0.01121	0.00349	2P	12.15160	0.23563		
2S	13.70000	-0.00550	0.60688	2P	22.28110	0.04871		
2S	23.57000	0.01294	-0.27499	2P	45.24000	0.00041		
2S	12.90020	0.00441	0.65992					

*GERMANIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.14331757E 04 P.E.=-0.28663558E 04
K.E.= 0.14331800E 04 V.T.=-0.19999970E 01

S		1S		2S		P		2P
BASIS/ORB E	-466.39204		-102.21202	BASIS/ORB E	-98.21081			
1S	31.63620	0.98164	-0.33864	2P	14.70890	0.71360		
1S	54.18910	0.01025	0.00369	2P	13.12190	0.24938		
2S	14.66670	-0.00740	0.62791	2P	23.94130	0.04488		
2S	25.14970	0.01320	-0.28153	2P	48.49330	0.00039		
2S	13.86680	0.00605	0.64527					

*SELENIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.16245443E 04 P.E.=-0.32490963E 04
K.E.= 0.16245519E 04 V.T.=-0.19999953E 01

S		1S		2S		P		2P
BASIS/ORB E	-529.40726		-117.02498	BASIS/ORB E	-112.74927			
1S	33.65490	0.98237	-0.34015	2P	15.75520	0.70367		
1S	57.65370	0.00941	0.00387	2P	14.09230	0.26214		
2S	15.63330	-0.00934	0.64977	2P	25.60140	0.04155		
2S	26.72950	0.01343	-0.28746	2P	51.74670	0.00037		
2S	14.83340	0.00774	0.62918					

*KRYPTON 1S(2)2S(2)2P(2),6-1S
T.E.=-0.18279134E 04 P.E.=-0.36558364E 04
K.E.= 0.18279230E 04 V.T.=-0.19999947E 01

S		1S		2S		P		2P
BASIS/ORB E	-596.42281		-132.83805	BASIS/ORB E	-128.28787			
1S	35.67360	0.98303	-0.34150	2P	16.80160	0.69430		
1S	61.11820	0.00866	0.00404	2P	15.06260	0.27400		
2S	16.60000	-0.01128	0.67194	2P	27.26160	0.03862		
2S	28.30920	0.01364	-0.29283	2P	55.00000	0.00035		
2S	15.80000	0.00946	0.61225					

*GALLIUM 1S(2)2S(2)2P(2),6-1S
T.E.=-0.13419914E 04 P.E.=-0.26839860E 04
K.E.= 0.13419945E 04 V.T.=-0.19999977E 01

S		1S		2S		P		2P
BASIS/ORB E	-436.38450		-95.18057	BASIS/ORB E	-91.31662			
1S	30.62680	0.98123	-0.33780	2P	14.18570	0.71877		
1S	52.45680	0.01071	0.00359	2P	12.63670	0.24264		
2S	14.18330	-0.00645	0.61749	2P	23.11120	0.04673		
2S	24.35980	0.01307	-0.27836	2P	46.86670	0.00040		
2S	13.38350	0.00523	0.65260					

*ARSENIC 1S(2)2S(2)2P(2),6-1S
T.E.=-0.15273601E 04 P.E.=-0.30547267E 04
K.E.= 0.15273666E 04 V.T.=-0.19999956E 01

S		1S		2S		P		2P
BASIS/ORB E	-497.39963		-109.49349	BASIS/ORB E	-105.35501			
1S	32.64550	0.98202	-0.33942	2P	15.23200	0.70857		
1S	55.92140	0.00981	0.00378	2P	13.60710	0.25586		
2S	15.15000	-0.00837	0.63887	2P	24.77130	0.04316		
2S	25.93960	0.01332	-0.28458	2P	50.12000	0.00037		
2S	14.35010	0.00689	0.63726					

*BROMINE 1S(2)2S(2)2P(2),6-1S
T.E.=-0.17247289E 04 P.E.=-0.34494662E 04
K.E.= 0.17247374E 04 V.T.=-0.19999950E 01

S		1S		2S		P		2P
BASIS/ORB E	-562.41502		-124.80651	BASIS/ORB E	-120.39355			
1S	34.66420	0.98271	-0.34085	2P	16.27840	0.69891		
1S	59.38590	0.00902	0.00396	2P	14.57740	0.26818		
2S	16.11670	-0.01032	0.66072	2P	26.43150	0.04004		
2S	27.51930	0.01353	-0.29020	2P	53.37330	0.00036		
2S	15.31670	0.00860	0.62091					

TABLE 10- 01

*NITROGEN 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.54400904E 02 P.E.=-0.10880060E 03
K.E.= 0.54399709E 02 V.T.=-0.20000219E 01

S		1S		2S		P		2P
BASIS/ORB	E	-15.62924		-0.94532	BASIS/ORB	E	-0.56771	
1S	6.47300	0.92722		-0.21305	2P	1.71240	0.48386	
1S	10.97000	0.06331		-0.00997	2P	3.01120	0.28083	
2S	2.62950	0.00402		0.51358	2P	1.19370	0.29729	
2S	5.57310	0.01778		-0.09301	2P	7.10180	0.01352	
2S	1.59370	-0.00071		0.59917				

*FLUORINE 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.97608902E 02 P.E.=-0.19521771E 03
K.E.= 0.97608820E 02 V.T.=-0.20000007E 01

S		1S		2S		P		2P
BASIS/ORB	E	-28.08119		-2.91677	BASIS/ORB	E	-2.34344	
1S	8.48307	0.93952		-0.25385	2P	2.76319	0.55370	
1S	14.29140	0.04935		-0.00331	2P	4.63773	0.20825	
2S	3.57229	0.00518		0.44875	2P	2.16033	0.27406	
2S	7.17243	0.01804		-0.10292	2P	10.06030	0.00859	
2S	2.55276	-0.00170		0.66194				

*SODIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.15385520E 03 P.E.=-0.30770976E 03
K.E.= 0.15385456E 03 V.T.=-0.20000041E 01

S		1S		2S		P		2P
BASIS/ORB	E	-44.57910		-5.91366	BASIS/ORB	E	-5.13889	
1S	10.49310	0.94817		-0.27620	2P	3.81399	0.58140	
1S	17.61280	0.04032		-0.00103	2P	6.26426	0.16367	
2S	4.51509	0.00550		0.42431	2P	3.12697	0.28114	
2S	8.77176	0.01763		-0.12289	2P	13.01880	0.00593	
2S	3.51181	-0.00238		0.70061				

*ALUMINUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.22311847E 03 P.E.=-0.44623513E 03
K.E.= 0.22311666E 03 V.T.=-0.20000080E 01

S		1S		2S		P		2P
BASIS/ORB	E	-65.09604		-9.91958	BASIS/ORB	E	-8.94239	
1S	12.50320	0.95458		-0.29057	2P	4.86478	0.59213	
1S	20.93410	0.03400		0.00008	2P	7.89079	0.13394	
2S	5.45788	0.00540		0.41780	2P	4.09360	0.29479	
2S	10.37110	0.01707		-0.14311	2P	15.97730	0.00439	
2S	4.47087	-0.00276		0.72405				

*OXYGEN 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.74372555E 02 P.E.=-0.14874466E 03
K.E.= 0.74372108E 02 V.T.=-0.20000059E 01

S		1S		2S		P		2P
BASIS/ORB	E	-21.34601		-1.80054	BASIS/ORB	E	-1.32659	
1S	7.47803	0.93396		-0.23701	2P	2.23780	0.52720	
1S	12.63070	0.05549		-0.00561	2P	3.82447	0.23978	
2S	3.10090	0.00475		0.47307	2P	1.67702	0.27814	
2S	6.37277	0.01805		-0.09526	2P	8.58105	0.01067	
2S	2.07323	-0.00123		0.63471				

*NEON 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.12410413E 03 P.E.=-0.24820840E 03
K.E.= 0.12410428E 03 V.T.=-0.19999988E 01

S		1S		2S		P		2P
BASIS/ORB	E	-35.82682		-4.28857	BASIS/ORB	E	-3.61476	
1S	9.48810	0.94419		-0.26641	2P	3.28859	0.57060	
1S	15.95210	0.04440		-0.00193	2P	5.45100	0.18351	
2S	4.04369	0.00541		0.43354	2P	2.64365	0.27614	
2S	7.97210	0.01787		-0.11260	2P	11.53950	0.00706	
2S	3.03228	-0.00208		0.68352				

*MAGNESIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.18686035E 03 P.E.=-0.37371957E 03
K.E.= 0.18685921E 03 V.T.=-0.20000061E 01

S		1S		2S		P		2P
BASIS/ORB	E	-54.33594		-7.79089	BASIS/ORB	E	-6.91496	
1S	11.49820	0.95159		-0.28408	2P	4.33938	0.58816	
1S	19.27340	0.03690		-0.00040	2P	7.07753	0.14744	
2S	4.98648	0.00548		0.41941	2P	3.61029	0.28760	
2S	9.57143	0.01736		-0.13317	2P	14.49800	0.00506	
2S	3.99134	-0.00260		0.71393				

*SILICON 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.26262879E 03 P.E.=-0.52525540E 03
K.E.= 0.26262660E 03 V.T.=-0.20000083E 01

S		1S		2S		P		2P
BASIS/ORB	E	-76.85856		-12.29932	BASIS/ORB	E	-11.22085	
1S	13.50820	0.95720		-0.29602	2P	5.39018	0.59418	
1S	22.59480	0.03149		0.00046	2P	8.70406	0.12254	
2S	5.92928	0.00525		0.41878	2P	4.57692	0.30225	
2S	11.17080	0.01677		-0.15259	2P	17.45650	0.00385	
2S	4.95039	-0.00286		0.73140				

PHOSPHORUS 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.30539083E 03 P.E.=-0.61077889E 03
K.E.= 0.30538806E 03 V.T.=-0.20000089E 01

S		1S		2S		P		2P
BASIS/ORB	E	-89.62295		-14.92986	BASIS/ORB	E	-13.75008	
1S	14.51330	0.95952		-0.30068	2P	5.91557	0.59486	
1S	24.25550	0.02931		0.00077	2P	9.51732	0.11280	
2S	6.40067	0.00507		0.42186	2P	5.06024	0.30975	
2S	11.97040	0.01649		-0.16154	2P	18.93580	0.00343	
2S	5.42992	-0.00291		0.73635				

*CHLORINE 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.40066864E 03 P.E.=-0.80133385E 03
K.E.= 0.40066519E 03 V.T.=-0.20000085E 01

S		1S		2S		P		2P
BASIS/ORB	E	-118.15576		-20.94259	BASIS/ORB	E	-19.56025	
1S	16.52330	0.96344		-0.30823	2P	6.96637	0.59358	
1S	27.57690	0.02571		0.00125	2P	11.14390	0.09704	
2S	7.34347	0.00460		0.43306	2P	6.02687	0.32436	
2S	13.56980	0.01595		-0.17788	2P	21.89430	0.00279	
2S	6.38898	-0.00287		0.74008				

*POTASSIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.50895001E 03 P.E.=-0.10178962E 04
K.E.= 0.50894623E 03 V.T.=-0.20000073E 01

S		1S		2S		P		2P
BASIS/ORB	E	-150.69236		-27.95687	BASIS/ORB	E	-26.37201	
1S	18.53340	0.96663		-0.31411	2P	8.01716	0.59027	
1S	30.89830	0.02284		0.00164	2P	12.77040	0.08486	
2S	8.28626	0.00404		0.44950	2P	6.99351	0.33802	
2S	15.16910	0.01547		-0.19225	2P	24.85280	0.00235	
2S	7.34803	-0.00269		0.73703				

*SCANDIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.63023378E 03 P.E.=-0.12604622E 04
K.E.= 0.63022839E 03 V.T.=-0.20000084E 01

S		1S		2S		P		2P
BASIS/ORB	E	-187.23156		-35.97215	BASIS/ORB	E	-34.18485	
1S	20.54350	0.96926		-0.31883	2P	9.06795	0.58600	
1S	34.21970	0.02051		0.00195	2P	14.39690	0.07517	
2S	9.22905	0.00339		0.47004	2P	7.96014	0.35055	
2S	16.76840	0.01505		-0.20490	2P	27.81130	0.00203	
2S	8.30709	-0.00237		0.72841				

*SULFUR 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.35140420E 03 P.E.=-0.70280528E 03
K.E.= 0.35140107E 03 V.T.=-0.20000088E 01

S		1S		2S		P		2P
BASIS/ORB	E	-103.38877		-17.81099	BASIS/ORB	E	-16.52992	
1S	15.51830	0.96159		-0.30471	2P	6.44097	0.59457	
1S	25.91620	0.02740		0.00103	2P	10.33060	0.10438	
2S	6.87207	0.00485		0.42671	2P	5.54356	0.31715	
2S	12.77010	0.01622		-0.16997	2P	20.41500	0.00308	
2S	5.90945	-0.00291		0.73916				

*ARGON 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.45318399E 03 P.E.=-0.90636438E 03
K.E.= 0.45318039E 03 V.T.=-0.20000079E 01

S		1S		2S		P		2P
BASIS/ORB	E	-133.92367		-24.32458	BASIS/ORB	E	-22.84096	
1S	17.52840	0.96511		-0.31134	2P	7.49176	0.59211	
1S	29.23760	0.02420		0.00146	2P	11.95710	0.09058	
2S	7.81486	0.00433		0.44073	2P	6.51019	0.33131	
2S	14.36940	0.01571		-0.18530	2P	23.37350	0.00255	
2S	6.86850	-0.00279		0.73929				

*CALCIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.56796664E 03 P.E.=-0.11359289E 04
K.E.= 0.56796219E 03 V.T.=-0.20000077E 01

S		1S		2S		P		2P
BASIS/ORB	E	-168.46169		-31.83940	BASIS/ORB	E	-30.15331	
1S	19.53840	0.96801		-0.31659	2P	8.54256	0.58822	
1S	32.55900	0.02162		0.00180	2P	13.58370	0.07975	
2S	8.75766	0.00373		0.45929	2P	7.47682	0.34442	
2S	15.96880	0.01525		-0.19877	2P	26.33200	0.00217	
2S	7.82756	-0.00255		0.73337				

*TITANIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.69575137E 03 P.E.=-0.13914996E 04
K.E.= 0.69574823E 03 V.T.=-0.20000044E 01

S		1S		2S		P		2P
BASIS/ORB	E	-207.00184		-40.35507	BASIS/ORB	E	-38.46655	
1S	21.54850	0.97042		-0.32085	2P	9.59335	0.58367	
1S	35.88030	0.01950		0.00208	2P	15.21020	0.07104	
2S	9.70045	0.00306		0.48162	2P	8.44346	0.35641	
2S	17.56810	0.01485		-0.21065	2P	29.29050	0.00190	
2S	8.78661	-0.00219		0.72229				

TABLE 10- 03

*VANADIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.76451933E 03 P.E.=-0.15290349E 04
K.E.= 0.76451562E 03 V.T.=-0.20000047E 01

S		1S		2S		P		2P
BASIS/ORB E	-227.77259		-44.98815	BASIS/ORB E		-42.99845		
1S	22.55360	0.97148		-0.32270	2P	10.11870		0.58130
1S	37.54100	0.01858		0.00221	2P	16.02340		0.06729
2S	10.17180	0.00269		0.49404	2P	8.92678		0.36199
2S	18.36770	0.01467		-0.21608	2P	30.76980		0.00179
2S	9.26614	-0.00196		0.71504				

*MANGANESE 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.91180616E 03 P.E.=-0.18236081E 04
K.E.= 0.91180199E 03 V.T.=-0.20000046E 01

S		1S		2S		P		2P
BASIS/ORB E	-272.31508		-55.00469	BASIS/ORB E		-52.81264		
1S	24.56360	0.97338		-0.32595	2P	11.16950		0.57646
1S	40.86240	0.01694		0.00244	2P	17.65000		0.06075
2S	11.11460	0.00197		0.52088	2P	9.89341		0.37241
2S	19.96710	0.01432		-0.22598	2P	33.72830		0.00160
2S	10.22520	-0.00149		0.69768				

*COBALT 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.10720938E 04 P.E.=-0.21441855E 04
K.E.= 0.10720917E 04 V.T.=-0.20000020E 01

S		1S		2S		P		2P
BASIS/ORB E	-320.85840		-66.02156	BASIS/ORB E		-63.62722		
1S	26.57370	0.97501		-0.32870	2P	12.22030		0.57170
1S	44.18380	0.01555		0.00264	2P	19.27650		0.05525
2S	12.05740	0.00119		0.55042	2P	10.86000		0.38189
2S	21.56640	0.01401		-0.23483	2P	36.68680		0.00146
2S	11.18430	-0.00094		0.67666				

*COPPER 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.12453824E 04 P.E.=-0.24907634E 04
K.E.= 0.12453809E 04 V.T.=-0.20000010E 01

S		1S		2S		P		2P
BASIS/ORB E	-373.40264		-78.03876	BASIS/ORB E		-75.44217		
1S	28.58380	0.97644		-0.33108	2P	13.27110		0.56705
1S	47.50520	0.01435		0.00282	2P	20.90300		0.05055
2S	13.00020	0.00035		0.58242	2P	11.82670		0.39057
2S	23.16570	0.01374		-0.24276	2P	39.64530		0.00135
2S	12.14330	-0.00029		0.65232				

*CHROMIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.83653758E 03 P.E.=-0.16730726E 04
K.E.= 0.83653498E 03 V.T.=-0.20000031E 01

S		1S		2S		P		2P
BASIS/ORB E	-249.54362		-49.87134	BASIS/ORB E		-47.78047		
1S	23.55860	0.97247		-0.32439	2P	10.64410		0.57889
1S	39.20170	0.01773		0.00233	2P	16.83670		0.06388
2S	10.64320	0.00235		0.50711	2P	9.41009		0.36732
2S	19.16740	0.01448		-0.22117	2P	32.24900		0.00169
2S	9.74567	-0.00174		0.70684				

*IRON 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.99032491E 03 P.E.=-0.19806447E 04
K.E.= 0.99031982E 03 V.T.=-0.20000050E 01

S		1S		2S		P		2P
BASIS/ORB E	-296.08657		-60.38806	BASIS/ORB E		-58.09487		
1S	25.56870	0.97422		-0.32738	2P	11.69490		0.57407
1S	42.52310	0.01622		0.00254	2P	18.46320		0.05789
2S	11.58600	0.00157		0.53541	2P	10.37670		0.37726
2S	20.76670	0.01417		-0.23054	2P	35.20750		0.00153
2S	10.70470	-0.00121		0.68753				

*NICKEL 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.11571131E 04 P.E.=-0.23142251E 04
K.E.= 0.11571120E 04 V.T.=-0.20000007E 01

S		1S		2S		P		2P
BASIS/ORB E	-346.63043		-71.90513	BASIS/ORB E		-69.40966		
1S	27.57870	0.97575		-0.32994	2P	12.74570		0.56935
1S	45.84450	0.01493		0.00273	2P	20.08980		0.05281
2S	12.52880	0.00075		0.56609	2P	11.34340		0.38633
2S	22.36610	0.01387		-0.23890	2P	38.16600		0.00140
2S	11.66380	-0.00060		0.66491				

*ZINC 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.13369019E 04 P.E.=-0.26738032E 04
K.E.= 0.13369012E 04 V.T.=-0.20000006E 01

S		1S		2S		P		2P
BASIS/ORB E	-401.17499		-84.42244	BASIS/ORB E		-81.72474		
1S	29.58880	0.97708		-0.33215	2P	13.79650		0.56484
1S	49.16590	0.01380		0.00290	2P	21.71630		0.04844
2S	13.47160	-0.00009		0.59932	2P	12.31000		0.39459
2S	23.96540	0.01361		-0.24642	2P	41.12450		0.00130
2S	12.62280	0.00006		0.63896				

TABLE 10- 04

*GALLIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.14316715E 04 P.E.=-0.28633475E 04
K.E.= 0.14316759E 04 V.T.=-0.19999968E 01

S		1S		2S	P		2P
BASIS/ORB E	-429.94743	-91.05617	BASIS/ORB E	-88.25737			
1S	30.59380	0.97769	-0.33315	2P	14.32190	0.56266	
1S	50.82660	0.01330	0.00297	2P	22.52960	0.04648	
2S	13.94300	-0.00053	0.61671	2P	12.79330	0.39844	
2S	24.76510	0.01349	-0.24990	2P	42.60380	0.00126	
2S	13.10240	0.00042	0.62496				

*ARSENIC 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.16309611E 04 P.E.=-0.32619239E 04
K.E.= 0.16309628E 04 V.T.=-0.19999989E 01

S		1S		2S	P		2P
BASIS/ORB E	-490.49283	-105.07381	BASIS/ORB E	-102.07279			
1S	32.60390	0.97880	-0.33497	2P	15.37270	0.55848	
1S	54.14790	0.01237	0.00312	2P	24.15610	0.04294	
2S	14.88580	-0.00144	0.65338	2P	13.75990	0.40566	
2S	26.36440	0.01327	-0.25637	2P	45.56230	0.00118	
2S	14.06140	0.00116	0.59457				

*BROMINE 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.18432511E 04 P.E.=-0.36865050E 04
K.E.= 0.18432538E 04 V.T.=-0.19999985E 01

S		1S		2S	P		2P
BASIS/ORB E	-555.03864	-120.09158	BASIS/ORB E	-116.88839			
1S	34.61400	0.97979	-0.33658	2P	16.42350	0.55446	
1S	57.46930	0.01155	0.00325	2P	25.78260	0.03983	
2S	15.82860	-0.00241	0.69213	2P	14.72660	0.41234	
2S	27.96370	0.01306	-0.26223	2P	48.52080	0.00112	
2S	15.02050	0.00199	0.56155				

*GERMANIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.15296913E 04 P.E.=-0.30593833E 04
K.E.= 0.15296920E 04 V.T.=-0.19999994E 01

S		1S		2S	P		2P
BASIS/ORB E	-459.72009	-97.93997	BASIS/ORB E	-95.04006			
1S	31.59890	0.97826	-0.33409	2P	14.84730	0.56054	
1S	52.48720	0.01282	0.00305	2P	23.34280	0.04465	
2S	14.41440	-0.00099	0.63479	2P	13.27660	0.40213	
2S	25.56470	0.01338	-0.25322	2P	44.08300	0.00122	
2S	13.58190	0.00079	0.61009				

*SELENIUM 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.17354812E 04 P.E.=-0.34709644E 04
K.E.= 0.17354833E 04 V.T.=-0.19999988E 01

S		1S		2S	P		2P
BASIS/ORB E	-522.26572	-112.45768	BASIS/ORB E	-109.35557			
1S	33.60890	0.97931	-0.33580	2P	15.89810	0.55641	
1S	55.80860	0.01194	0.00319	2P	24.96940	0.04134	
2S	15.35720	-0.00190	0.67251	2P	14.24330	0.40910	
2S	27.16410	0.01316	-0.25937	2P	47.04150	0.00115	
2S	14.54090	0.00156	0.57837				

*KRYPTON 1S(2)2S(2)2P(3), 7-4S
T.E.=-0.19542713E 04 P.E.=-0.39085425E 04
K.E.= 0.19542710E 04 V.T.=-0.20000000E 01

S		1S		2S	P		2P
BASIS/ORB E	-588.81171	-127.97552	BASIS/ORB E	-124.67126			
1S	35.61900	0.98025	-0.33732	2P	16.94890	0.55258	
1S	59.13000	0.01117	0.00331	2P	26.59590	0.03841	
2S	16.30000	-0.00287	0.71250	2P	15.20990	0.41545	
2S	28.76340	0.01296	-0.26498	2P	50.00000	0.00109	
2S	15.50000	0.00239	0.54386				

*NITROGEN 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.54296138E 02 P.E.=-0.10859103E 03
K.E.= 0.54294891E 02 V.T.=-0.20000229E 01

S		1S		2S		P		2P
BASIS/ORB E		-15.66672		-0.96376	BASIS/ORB E		-0.50889	
1S	6.48580	0.92629		-0.21283	2P	1.64460	0.52423	
1S	10.97000	0.06249		-0.01034	2P	3.02000	0.28940	
2S	2.62950	0.00341		0.52557	2P	1.09060	0.25793	
2S	5.57310	0.02011		-0.09612	2P	7.16500	0.01260	
2S	1.59370	-0.00047		0.58909				

*FLUORINE 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.97436284E 02 P.E.=-0.19487294E 03
K.E.= 0.97436654E 02 V.T.=-0.19999962E 01

S		1S		2S		P		2P
BASIS/ORB E		-28.11436		-2.93113	BASIS/ORB E		-2.23824	
1S	8.49132	0.93732		-0.25380	2P	2.69746	0.59182	
1S	14.19180	0.05023		-0.00340	2P	4.67338	0.21521	
2S	3.57229	0.00426		0.45545	2P	2.05231	0.23385	
2S	7.17078	0.01999		-0.10435	2P	10.10920	0.00766	
2S	2.55276	-0.00122		0.65623				

*SODIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.15361726E 03 P.E.=-0.30723473E 03
K.E.= 0.15361746E 03 V.T.=-0.19999986E 01

S		1S		2S		P		2P
BASIS/ORB E		-44.61077		-5.92679	BASIS/ORB E		-4.98985	
1S	10.49680	0.94562		-0.27635	2P	3.75032	0.61850	
1S	17.41370	0.04194		-0.00102	2P	6.32676	0.16910	
2S	4.51509	0.00440		0.42909	2P	3.01402	0.24206	
2S	8.76847	0.01915		-0.12362	2P	13.05340	0.00507	
2S	3.51181	-0.00174		0.69645				

*ALUMINUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.22281606E 03 P.E.=-0.44563157E 03
K.E.= 0.22281551E 03 V.T.=-0.20000023E 01

S		1S		2S		P		2P
BASIS/ORB E		-65.12688		-9.93211	BASIS/ORB E		-8.75022	
1S	12.50240	0.95202		-0.29087	2P	4.80319	0.62845	
1S	20.63550	0.03595		0.00015	2P	7.98014	0.13826	
2S	5.45788	0.00423		0.42157	2P	3.97573	0.25686	
2S	10.36610	0.01817		-0.14344	2P	15.99750	0.00361	
2S	4.47087	-0.00201		0.72073				

*OXYGEN 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.74233294E 02 P.E.=-0.14846633E 03
K.E.= 0.74233048E 02 V.T.=-0.20000032E 01

S		1S		2S		P		2P
BASIS/ORB E		-21.38060		-1.81618	BASIS/ORB E		-1.24397	
1S	7.48856	0.93221		-0.23686	2P	2.17103	0.56612	
1S	12.58090	0.05570		-0.00580	2P	3.84669	0.24764	
2S	3.10090	0.00397		0.48158	2P	1.57146	0.23768	
2S	6.37194	0.02021		-0.09730	2P	8.63709	0.00973	
2S	2.07323	-0.00087		0.62752				

*NEON 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.12389870E 03 P.E.=-0.24779781E 03
K.E.= 0.12389909E 03 V.T.=-0.19999967E 01

S		1S		2S		P		2P
BASIS/ORB E		-35.85911		-4.30219	BASIS/ORB E		-3.48750	
1S	9.49408	0.94175		-0.26647	2P	3.22389	0.60814	
1S	15.80280	0.04572		-0.00196	2P	5.50007	0.18965	
2S	4.04369	0.00438		0.43910	2P	2.53317	0.23646	
2S	7.96962	0.01961		-0.11362	2P	11.58130	0.00617	
2S	3.03228	-0.00151		0.67873				

*MAGNESIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.18659011E 03 P.E.=-0.37318000E 03
K.E.= 0.18658989E 03 V.T.=-0.20000011E 01

S		1S		2S		P		2P
BASIS/ORB E		-54.36715		-7.80368	BASIS/ORB E		-6.74429	
1S	11.49960	0.94902		-0.28431	2P	4.27676	0.62484	
1S	19.02460	0.03872		-0.00036	2P	7.15345	0.15227	
2S	4.98648	0.00434		0.42362	2P	3.49488	0.24912	
2S	9.56731	0.01866		-0.13367	2P	14.52540	0.00425	
2S	3.99134	-0.00190		0.71025				

*SILICON 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.26229431E 03 P.E.=-0.52458752E 03
K.E.= 0.26229321E 03 V.T.=-0.20000041E 01

S		1S		2S		P		2P
BASIS/ORB E		-76.88913		-12.31166	BASIS/ORB E		-11.00725	
1S	13.50510	0.95470		-0.29639	2P	5.32962	0.63015	
1S	22.24640	0.03354		0.00054	2P	8.80683	0.12643	
2S	5.92928	0.00409		0.42220	2P	4.45659	0.26485	
2S	11.16500	0.01768		-0.15277	2P	17.46960	0.00312	
2S	4.95039	-0.00209		0.72836				

TABLE 11- 02

*PHOSPHORUS 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.30502433E 03 P.E.=-0.61004715E 03
K.E.= 0.30502281E 03 V.T.=-0.20000049E 01

S		1S		2S		P		2P
BASIS/ORB E		-89.65327		-14.94204	BASIS/ORB E		-13.51511	
1S	14.50790	0.95709		-0.30111	2P	5.85605	0.63051	
1S	23.85730	0.03143		0.00087	2P	9.63352	0.11632	
2S	6.40067	0.00392		0.42500	2P	4.93744	0.27284	
2S	11.96380	0.01722		-0.16160	2P	18.94170	0.00273	
2S	5.42992	-0.00212		0.73355				

*CHLORINE 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.40023831E 03 P.E.=-0.80047448E 03
K.E.= 0.40023617E 03 V.T.=-0.20000052E 01

S		1S		2S		P		2P
BASIS/ORB E		-118.18573		-20.95455	BASIS/ORB E		-19.28265	
1S	16.51340	0.96118		-0.30876	2P	6.90891	0.62863	
1S	27.07920	0.02788		0.00138	2P	11.28690	0.09996	
2S	7.34347	0.00354		0.43577	2P	5.89915	0.28833	
2S	13.56150	0.01634		-0.17775	2P	21.88590	0.00216	
2S	6.38898	-0.00210		0.73764				

*POTASSIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.50845595E 03 P.E.=-0.10169096E 04
K.E.= 0.50845359E 03 V.T.=-0.20000046E 01

S		1S		2S		P		2P
BASIS/ORB E		-150.72203		-27.96865	BASIS/ORB E		-26.05189	
1S	18.51890	0.96455		-0.31474	2P	7.96177	0.62480	
1S	30.30100	0.02503		0.00178	2P	12.94030	0.08731	
2S	8.28626	0.00311		0.45189	2P	6.86086	0.30274	
2S	15.15920	0.01556		-0.19198	2P	24.83010	0.00178	
2S	7.34803	-0.00198		0.73486				

*SCANDIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.62967612E 03 P.E.=-0.12593482E 04
K.E.= 0.62967215E 03 V.T.=-0.20000062E 01

S		1S		2S		P		2P
BASIS/ORB E		-187.26106		-35.98382	BASIS/ORB E		-33.82230	
1S	20.52440	0.96737		-0.31954	2P	9.01463	0.62004	
1S	33.52280	0.02269		0.00211	2P	14.59370	0.07725	
2S	9.22905	0.00265		0.47216	2P	7.82257	0.31595	
2S	16.75690	0.01487		-0.20450	2P	27.77430	0.00151	
2S	8.30709	-0.00177		0.72648				

*SULFUR 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.35100576E 03 P.E.=-0.70200969E 03
K.E.= 0.35100393E 03 V.T.=-0.20000052E 01

S		1S		2S		P		2P
BASIS/ORB E		-103.41890		-17.82304	BASIS/ORB E		-16.27362	
1S	15.51060	0.95924		-0.30519	2P	6.38248	0.62990	
1S	25.46830	0.02955		0.00114	2P	10.46020	0.10759	
2S	6.87207	0.00374		0.42961	2P	5.41830	0.28070	
2S	12.76270	0.01676		-0.16993	2P	20.41380	0.00242	
2S	5.90945	-0.00213		0.73656				

*ARGON 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.45272177E 03 P.E.=-0.90543909E 03
K.E.= 0.45271733E 03 V.T.=-0.20000097E 01

S		1S		2S		P		2P
BASIS/ORB E		-133.95350		-24.33644	BASIS/ORB E		-22.54210	
1S	17.51610	0.96295		-0.31192	2P	7.43534	0.62687	
1S	28.69010	0.02638		0.00159	2P	12.11360	0.09326	
2S	7.81486	0.00333		0.44325	2P	6.38001	0.29569	
2S	14.36040	0.01594		-0.18509	2P	23.35800	0.00195	
2S	6.86850	-0.00205		0.73702				

*CALCIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.56744076E 03 P.E.=-0.11348765E 04
K.E.= 0.56743578E 03 V.T.=-0.20000087E 01

S		1S		2S		P		2P
BASIS/ORB E		-168.49129		-31.85113	BASIS/ORB E		-29.81197	
1S	19.52170	0.96602		-0.31726	2P	8.48820	0.62249	
1S	31.91190	0.02380		0.00195	2P	13.76700	0.08201	
2S	8.75766	0.00288		0.46158	2P	7.34172	0.30950	
2S	15.95800	0.01521		-0.19844	2P	26.30220	0.00163	
2S	7.82756	-0.00188		0.73129				

*TITANIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.69516192E 03 P.E.=-0.13903216E 04
K.E.= 0.69515965E 03 V.T.=-0.20000032E 01

S		1S		2S		P		2P
BASIS/ORB E		-207.03124		-40.36668	BASIS/ORB E		-38.08280	
1S	21.52720	0.96862		-0.32160	2P	9.54107	0.61749	
1S	35.13380	0.02166		0.00226	2P	15.42030	0.07296	
2S	9.70045	0.00241		0.48367	2P	8.30343	0.32211	
2S	17.55570	0.01455		-0.21022	2P	29.24630	0.00141	
2S	8.78661	-0.00165		0.72043				

TABLE 11- 03

*VANADIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.76389808E 03 P.E.=-0.15277904E 04
K.E.= 0.76389227E 03 V.T.=-0.20000076E 01

S		1S		2S		P		2P
BASIS/ORB E		-227.80186		-44.99970	BASIS/ORB E		-42.59349	
1S	22.52990		0.96977	-0.32348	2P	10.06750		0.61490
1S	36.74470		0.02073	0.00239	2P	16.24700		0.06907
2S	10.17180		0.00216	0.49597	2P	8.78428		0.32798
2S	18.35460		0.01425	-0.21559	2P	30.71840		0.00132
2S	9.26614		-0.00151	0.71327				

*MANGANESE 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.91112138E 03 P.E.=-0.18222424E 04
K.E.= 0.91112109E 03 V.T.=-0.20000003E 01

S		1S		2S		P		2P
BASIS/ORB E		-272.34410		-55.01615	BASIS/ORB E		-52.36531	
1S	24.53550		0.97182	-0.32680	2P	11.12040		0.60970
1S	39.96650		0.01906	0.00264	2P	17.90040		0.06227
2S	11.11460		0.00168	0.52267	2P	9.74599		0.33890
2S	19.95220		0.01369	-0.22542	2P	33.66260		0.00118
2S	10.22520		-0.00122	0.69605				

*COBALT 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.10713457E 04 P.E.=-0.21426903E 04
K.E.= 0.10713447E 04 V.T.=-0.20000008E 01

S		1S		2S		P		2P
BASIS/ORB E		-320.88742		-66.03299	BASIS/ORB E		-63.13759	
1S	26.54100		0.97361	-0.32961	2P	12.17320		0.60460
1S	43.18830		0.01763	0.00286	2P	19.55380		0.05656
2S	12.05740		0.00114	0.55210	2P	10.70770		0.34882
2S	21.54990		0.01320	-0.23421	2P	36.60680		0.00107
2S	11.18430		-0.00085	0.67512				

*COPPER 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.12445708E 04 P.E.=-0.24891413E 04
K.E.= 0.12445705E 04 V.T.=-0.20000000E 01

S		1S		2S		P		2P
BASIS/ORB E		-373.43155		-78.05013	BASIS/ORB E		-74.91023	
1S	28.54650		0.97517	-0.33204	2P	13.22610		0.59967
1S	46.41020		0.01638	0.00305	2P	21.20720		0.05167
2S	13.00020		0.00065	0.58393	2P	11.66940		0.35787
2S	23.14760		0.01275	-0.24207	2P	39.55100		0.00099
2S	12.14330		-0.00049	0.65094				

*CHROMIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.83588457E 03 P.E.=-0.16717689E 04
K.E.= 0.83588432E 03 V.T.=-0.20000003E 01

S		1S		2S		P		2P
BASIS/ORB E		-249.57286		-49.88288	BASIS/ORB E		-47.35435	
1S	23.53270		0.97083	-0.32521	2P	10.59390		0.61232
1S	38.35560		0.01986	0.00252	2P	17.07370		0.06552
2S	10.64320		0.00192	0.50897	2P	9.26514		0.33355
2S	19.15340		0.01396	-0.22065	2P	32.19050		0.00124
2S	9.74567		-0.00137	0.70514				

*IRON 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.98960840E 03 P.E.=-0.19792154E 04
K.E.= 0.98960707E 03 V.T.=-0.20000012E 01

S		1S		2S		P		2P
BASIS/ORB E		-296.11564		-60.39952	BASIS/ORB E		-57.62641	
1S	25.53820		0.97275	-0.32826	2P	11.64680		0.60715
1S	41.57740		0.01832	0.00275	2P	18.72710		0.05930
2S	11.58600		0.00142	0.53711	2P	10.22680		0.34397
2S	20.75110		0.01344	-0.22994	2P	35.13470		0.00112
2S	10.70470		-0.00105	0.68597				

*NICKEL 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.11563331E 04 P.E.=-0.23126663E 04
K.E.= 0.11563332E 04 V.T.=-0.19999999E 01

S		1S		2S		P		2P
BASIS/ORB E		-346.65936		-71.91652	BASIS/ORB E		-68.89886	
1S	27.54370		0.97442	-0.33087	2P	12.69970		0.60207
1S	44.79930		0.01698	0.00296	2P	20.38050		0.05402
2S	12.52880		0.00089	0.56772	2P	11.18860		0.35349
2S	22.34880		0.01297	-0.23824	2P	38.07890		0.00103
2S	11.66380		-0.00067	0.66343				

*ZINC 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.13360585E 04 P.E.=-0.26721217E 04
K.E.= 0.13360631E 04 V.T.=-0.19999965E 01

S		1S		2S		P		2P
BASIS/ORB E		-401.20384		-84.43380	BASIS/ORB E		-81.17165	
1S	29.54920		0.97588	-0.33314	2P	13.75250		0.59729
1S	48.02110		0.01582	0.00314	2P	22.03390		0.04949
2S	13.47160		0.00036	0.60080	2P	12.15030		0.36209
2S	23.94650		0.01254	-0.24571	2P	41.02310		0.00096
2S	12.62280		-0.00027	0.63762				

*GALLIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.14307965E 04 P.E.=-0.28615938E 04
K.E.= 0.14307974E 04 V.T.=-0.19999994E 01

S	1S	2S	P	2P
BASIS/ORB E	-429.97631	-91.06752	BASIS/ORB E	-87.68314
1S 30.55200	0.97655	-0.33416	2P 14.27890	0.59500
1S 49.63200	0.01529	0.00323	2P 22.86060	0.04746
2S 13.94300	0.00010	0.61811	2P 12.63110	0.36610
2S 24.74530	0.01235	-0.24916	2P 42.49520	0.00093
2S 13.10240	-0.00007	0.62367		

*ARSENIC 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.16300227E 04 P.E.=-0.32600425E 04
K.E.= 0.16300198E 04 V.T.=-0.20000017E 01

S	1S	2S	P	2P
BASIS/ORB E	-490.52161	-105.08510	BASIS/ORB E	-101.45628
1S 32.55750	0.97778	-0.33603	2P 15.33180	0.59054
1S 52.85380	0.01432	0.00339	2P 24.51390	0.04378
2S 14.88580	-0.00046	0.65463	2P 13.59280	0.37366
2S 26.34300	0.01198	-0.25558	2P 45.43930	0.00088
2S 14.06140	0.00038	0.59343		

*BROMINE 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.18422493E 04 P.E.=-0.36844923E 04
K.E.= 0.18422429E 04 V.T.=-0.20000034E 01

S	1S	2S	P	2P
BASIS/ORB E	-555.06741	-120.10285	BASIS/ORB E	-116.22963
1S 34.56300	0.97888	-0.33769	2P 16.38470	0.58634
1S 56.07570	0.01346	0.00353	2P 26.16730	0.04054
2S 15.82860	-0.00101	0.69327	2P 14.55450	0.38060
2S 27.94070	0.01164	-0.26140	2P 48.38350	0.00084
2S 15.02050	0.00084	0.56051		

*GERMANIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.15287846E 04 P.E.=-0.30575717E 04
K.E.= 0.15287872E 04 V.T.=-0.19999982E 01

S	1S	2S	P	2P
BASIS/ORB E	-459.74889	-97.95129	BASIS/ORB E	-94.44469
1S 31.55480	0.97718	-0.33512	2P 14.80540	0.59269
1S 51.24290	0.01479	0.00331	2P 23.68720	0.04556
2S 14.41440	-0.00019	0.63618	2P 13.11200	0.37001
2S 25.54410	0.01216	-0.25246	2P 43.96720	0.00090
2S 13.58190	0.00016	0.60883		

*SELENIUM 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.17345110E 04 P.E.=-0.34690242E 04
K.E.= 0.17345132E 04 V.T.=-0.19999988E 01

S	1S	2S	P	2P
BASIS/ORB E	-522.29443	-112.46897	BASIS/ORB E	-108.71794
1S 33.56030	0.97835	-0.33688	2P 15.85820	0.58840
1S 54.46480	0.01388	0.00346	2P 25.34060	0.04211
2S 15.35720	-0.00075	0.67379	2P 14.07370	0.37720
2S 27.14180	0.01181	-0.25857	2P 46.91140	0.00086
2S 14.54090	0.00062	0.57721		

*KRYPTON 1S(2)2S(2)2P(3), 7-2D
T.E.=-0.19532377E 04 P.E.=-0.39064799E 04
K.E.= 0.19532421E 04 V.T.=-0.19999977E 01

S	1S	2S	P	2P
BASIS/ORB E	-588.84032	-127.98677	BASIS/ORB E	-123.99133
1S 35.56580	0.97939	-0.33843	2P 16.91110	0.58432
1S 57.68660	0.01307	0.00360	2P 26.99400	0.03907
2S 16.30000	-0.00130	0.71371	2P 15.03540	0.38386
2S 28.73950	0.01149	-0.26415	2P 49.85560	0.00082
2S 15.50000	0.00109	0.54275		

*NITROGEN 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.54228051E 02 P.E.=-0.10845470E 03
K.E.= 0.54226656E 02 V.T.=-0.20000257E 01

S		1S		2S		P		2P
BASIS/ORB	E	-15.69200		-0.97643	BASIS/ORB	E	-0.47161	
1S	6.48450	0.92724		-0.21634	2P	1.62790	0.51297	
1S	10.97000	0.06219		-0.00908	2P	3.02430	0.29315	
2S	2.59950	0.00295		0.55787	2P	1.05800	0.27161	
2S	5.49360	0.01965		-0.09603	2P	7.20290	0.01208	
2S	1.57500	-0.00033		0.55879				

*FLUORINE 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.97322720E 02 P.E.=-0.19464456E 03
K.E.= 0.97321846E 02 V.T.=-0.20000089E 01

S		1S		2S		P		2P
BASIS/ORB	E	-28.13672		-2.94088	BASIS/ORB	E	-2.16971	
1S	8.48143	0.94032		-0.25642	2P	2.64667	0.56339	
1S	14.29140	0.04914		-0.00247	2P	4.58171	0.23664	
2S	3.54436	0.00457		0.48508	2P	2.03161	0.24326	
2S	7.08949	0.01764		-0.10456	2P	10.17510	0.00795	
2S	2.53552	-0.00143		0.62858				

*SODIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.15346008E 03 P.E.=-0.30691890E 03
K.E.= 0.15345882E 03 V.T.=-0.20000082E 01

S		1S		2S		P		2P
BASIS/ORB	E	-44.63203		-5.93564	BASIS/ORB	E	-4.89195	
1S	10.47840	0.94944		-0.27872	2P	3.66543	0.59245	
1S	17.61280	0.04070		-0.00030	2P	6.13911	0.19626	
2S	4.48922	0.00558		0.45757	2P	3.00523	0.24229	
2S	8.68538	0.01566		-0.12387	2P	13.14730	0.00549	
2S	3.49605	-0.00245		0.66998				

*ALUMINUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.22261582E 03 P.E.=-0.44522907E 03
K.E.= 0.22261324E 03 V.T.=-0.20000116E 01

S		1S		2S		P		2P
BASIS/ORB	E	-65.14757		-9.94053	BASIS/ORB	E	-8.62350	
1S	12.47530	0.95618		-0.29311	2P	4.68420	0.61133	
1S	20.93410	0.03479		0.00071	2P	7.69652	0.16698	
2S	5.43409	0.00630		0.44902	2P	3.97884	0.24615	
2S	10.28130	0.01392		-0.14362	2P	16.11950	0.00401	
2S	4.45657	-0.00333		0.69528				

*OXYGEN 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.74142038E 02 P.E.=-0.14828286E 03
K.E.= 0.74140820E 02 V.T.=-0.20000163E 01

S		1S		2S		P		2P
BASIS/ORB	E	-21.40396		-1.82686	BASIS/ORB	E	-1.19060	
1S	7.48297	0.93442		-0.23977	2P	2.13728	0.54241	
1S	12.63070	0.05488		-0.00472	2P	3.80300	0.26266	
2S	3.07193	0.00387		0.51210	2P	1.54481	0.24997	
2S	6.29155	0.01867		-0.09742	2P	8.68901	0.00977	
2S	2.05526	-0.00088		0.59897				

*NEON 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.12376320E 03 P.E.=-0.24752548E 03
K.E.= 0.12376226E 03 V.T.=-0.20000076E 01

S		1S		2S		P		2P
BASIS/ORB	E	-35.88082		-4.31139	BASIS/ORB	E	-3.40418	
1S	9.47990	0.94525		-0.26893	2P	3.15605	0.57958	
1S	15.95210	0.04452		-0.00115	2P	5.36041	0.21475	
2S	4.01679	0.00512		0.46810	2P	2.51842	0.24168	
2S	7.88743	0.01662		-0.11387	2P	11.66120	0.00656	
2S	3.01579	-0.00195		0.65172				

*MAGNESIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.18641136E 03 P.E.=-0.37282073E 03
K.E.= 0.18640938E 03 V.T.=-0.20000105E 01

S		1S		2S		P		2P
BASIS/ORB	E	-54.38808		-7.81228	BASIS/ORB	E	-6.63194	
1S	11.47680	0.95305		-0.28661	2P	4.17481	0.60285	
1S	19.27340	0.03751		0.00028	2P	6.91782	0.18051	
2S	4.96166	0.00596		0.45158	2P	3.49203	0.24394	
2S	9.48332	0.01476		-0.13389	2P	14.63340	0.00467	
2S	3.97631	-0.00291		0.68429				

*SILICON 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.26207269E 03 P.E.=-0.52414200E 03
K.E.= 0.26206931E 03 V.T.=-0.20000128E 01

S		1S		2S		P		2P
BASIS/ORB	E	-76.90960		-12.31994	BASIS/ORB	E	-10.86622	
1S	13.47380	0.95893		-0.29859	2P	5.19358	0.61832	
1S	22.59480	0.03244		0.00105	2P	8.47522	0.15525	
2S	5.90652	0.00660		0.44912	2P	4.46565	0.24863	
2S	11.07920	0.01316		-0.15292	2P	17.60560	0.00349	
2S	4.93683	-0.00373		0.70344				

TABLE 12- 02

*PHOSPHORUS 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.30478135E 03 P.E.=-0.60955856E 03
K.E.= 0.30477720E 03 V.T.=-0.20000135E 01

S		1S		2S	P		2P
BASIS/ORB	E	-89.67354	-14.95019		BASIS/ORB	E	-13.35980
1S	14.47220	0.96137	-0.30326		2P	5.70296	0.62409
1S	24.25550	0.03040	0.00131		2P	9.25393	0.14499
2S	6.37895	-0.00688	0.45135		2P	4.95246	0.25124
2S	11.87720	0.01244	-0.16171		2P	19.09180	0.00307
2S	5.41710	-0.00411	0.70917				

*CHLORINE 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.39995275E 03 P.E.=-0.79989994E 03
K.E.= 0.39994717E 03 V.T.=-0.20000138E 01

S		1S		2S	P		2P
BASIS/ORB	E	-118.20575	-20.96254		BASIS/ORB	E	-19.09891
1S	16.46920	0.96549	-0.31083		2P	6.72173	0.63292
1S	27.57690	0.02702	0.00172		2P	10.81130	0.12794
2S	7.32381	0.00739	0.46098		2P	5.92607	0.25659
2S	13.47300	0.01118	-0.17779		2P	22.06400	0.00243
2S	6.37762	-0.00480	0.71438				

*POTASSIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.50812790E 03 P.E.=-0.10162494E 04
K.E.= 0.50812159E 03 V.T.=-0.20000123E 01

S		1S		2S	P		2P
BASIS/ORB	E	-150.74189	-27.97651		BASIS/ORB	E	-25.83978
1S	18.46610	0.96883	-0.31673		2P	7.74049	0.63910
1S	30.89830	0.02433	0.00203		2P	12.36870	0.11436
2S	8.26867	0.00787	0.47586		2P	6.89968	0.26185
2S	15.06890	0.01009	-0.19195		2P	25.03620	0.00198
2S	7.33814	-0.00543	0.71281				

*SCANDIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.62930563E 03 P.E.=-0.12586033E 04
K.E.= 0.62929767E 03 V.T.=-0.20000125E 01

S		1S		2S	P		2P
BASIS/ORB	E	-187.28072	-35.99159		BASIS/ORB	E	-33.58187
1S	20.46300	0.97160	-0.32145		2P	8.75926	0.64342
1S	34.21970	0.02214	0.00227		2P	13.92610	0.10331
2S	9.21353	0.00833	0.49481		2P	7.87330	0.26692
2S	16.66480	0.00916	-0.20443		2P	28.00840	0.00165
2S	8.29867	-0.00604	0.70571				

*SULFUR 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.35074148E 03 P.E.=-0.70147810E 03
K.E.= 0.35073663E 03 V.T.=-0.20000137E 01

S		1S		2S	P		2P
BASIS/ORB	E	-103.43906	-17.83111		BASIS/ORB	E	-16.10409
1S	15.47070	0.96354	-0.30730		2P	6.21234	0.62891
1S	25.91620	0.02861	0.00153		2P	10.03260	0.13595
2S	6.85138	0.00714	0.45541		2P	5.43926	0.25391
2S	12.67510	0.01178	-0.17000		2P	20.57790	0.00272
2S	5.89736	-0.00446	0.71272				

*ARGON 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.45241491E 03 P.E.=-0.90482326E 03
K.E.= 0.45240833E 03 V.T.=-0.20000144E 01

S		1S		2S	P		2P
BASIS/ORB	E	-133.97340	-24.34436		BASIS/ORB	E	-22.34416
1S	17.46760	0.96724	-0.31395		2P	7.23111	0.63628
1S	29.23760	0.02560	0.00188		2P	11.59000	0.12078
2S	7.79624	0.00763	0.46782		2P	6.41288	0.25924
2S	14.27100	0.01061	-0.18509		2P	23.55010	0.00219
2S	6.85788	-0.00512	0.71437				

*CALCIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.56709148E 03 P.E.=-0.11341730E 04
K.E.= 0.56708146E 03 V.T.=-0.20000176E 01

S		1S		2S	P		2P
BASIS/ORB	E	-168.51107	-31.85895		BASIS/ORB	E	-29.58571
1S	19.46460	0.97027	-0.31921		2P	8.24988	0.64145
1S	32.55900	0.02318	0.00216		2P	13.14740	0.10856
2S	8.74110	0.00810	0.48487		2P	7.38649	0.26441
2S	15.86690	0.00961	-0.19839		2P	26.52230	0.00180
2S	7.81841	-0.00574	0.70989				

*TITANIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.69477023E 03 P.E.=-0.13895321E 04
K.E.= 0.69476184E 03 V.T.=-0.20000120E 01

S		1S		2S	P		2P
BASIS/ORB	E	-207.05090	-40.37442		BASIS/ORB	E	-37.82824
1S	21.46150	0.97281	-0.32347		2P	9.26864	0.64513
1S	35.88030	0.02119	0.00238		2P	14.70490	0.09851
2S	9.68597	0.00855	0.50560		2P	8.36010	0.26931
2S	17.46280	0.00874	-0.21011		2P	29.49450	0.00152
2S	8.77893	-0.00632	0.70035				

*VANADIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.76348522E 03 P.E.=-0.15269587E 04
K.E.= 0.76347358E 03 V.T.=-0.20000152E 01

S		1S		2S		P		2P
BASIS/ORB E		-227.82152		-45.00742	BASIS/ORB E		-42.32482	
1S	22.45990	0.97392		-0.32532	2P	9.77802	0.64653	
1S	37.54100	0.02033		0.00248	2P	15.48360	0.09413	
2S	10.15840	0.00878		0.51716	2P	8.84691	0.27166	
2S	18.26070	0.00834		-0.21546	2P	30.98060	0.00140	
2S	9.25919	-0.00661		0.69393				

*MANGANESE 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.91066620E 03 P.E.=-0.18213224E 04
K.E.= 0.91065623E 03 V.T.=-0.20000108E 01

S		1S		2S		P		2P
BASIS/ORB E		-272.36365		-55.02380	BASIS/ORB E		-52.06838	
1S	24.45690	0.97591		-0.32856	2P	10.79680	0.64862	
1S	40.86240	0.01879		0.00265	2P	17.04100	0.08642	
2S	11.10330	0.00923		0.54236	2P	9.82052	0.27619	
2S	19.85660	0.00764		-0.22526	2P	33.95280	0.00121	
2S	10.21970	-0.00717		0.67817				

*COBALT 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.10708482E 04 P.E.=-0.21416801E 04
K.E.= 0.10708319E 04 V.T.=-0.20000150E 01

S		1S		2S		P		2P
BASIS/ORB E		-320.90693		-66.04060	BASIS/ORB E		-62.81245	
1S	26.45380	0.97763		-0.33132	2P	11.81560	0.65010	
1S	44.18380	0.01748		0.00281	2P	18.59840	0.07982	
2S	12.04810	0.00970		0.57018	2P	10.79410	0.28040	
2S	21.45250	0.00701		-0.23400	2P	36.92500	0.00106	
2S	11.18020	-0.00773		0.65881				

*COPPER 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.12440310E 04 P.E.=-0.24880472E 04
K.E.= 0.12440163E 04 V.T.=-0.20000117E 01

S		1S		2S		P		2P
BASIS/ORB E		-373.45102		-78.05771	BASIS/ORB E		-74.55687	
1S	28.45070	0.97912		-0.33369	2P	12.83430	0.65106	
1S	47.50520	0.01635		0.00294	2P	20.15580	0.07413	
2S	12.99300	0.01018		0.60021	2P	11.76780	0.28436	
2S	23.04840	0.00645		-0.24183	2P	39.89730	0.00094	
2S	12.14080	-0.00829		0.63639				

*CHROMIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.83545055E 03 P.E.=-0.16708919E 04
K.E.= 0.83544137E 03 V.T.=-0.20000110E 01

S		1S		2S		P		2P
BASIS/ORB E		-249.59241		-49.89055	BASIS/ORB E		-47.07152	
1S	23.45840	0.97495		-0.32701	2P	10.28740	0.64768	
1S	39.20170	0.01953		0.00257	2P	16.26230	0.09011	
2S	10.63080	0.00900		0.52943	2P	9.33372	0.27396	
2S	19.05870	0.00798		-0.22050	2P	32.46670	0.00130	
2S	9.73945	-0.00689		0.68651				

*IRON 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.98913207E 03 P.E.=-0.19782539E 04
K.E.= 0.98912185E 03 V.T.=-0.20000102E 01

S		1S		2S		P		2P
BASIS/ORB E		-296.13514		-60.40715	BASIS/ORB E		-57.31535	
1S	25.45530	0.97680		-0.32999	2P	11.30620	0.64942	
1S	42.52310	0.01812		0.00273	2P	17.81970	0.08299	
2S	11.57570	0.00947		0.55590	2P	10.30730	0.27834	
2S	20.65460	0.00731		-0.22974	2P	35.43890	0.00113	
2S	10.70000	-0.00745		0.66897				

*NICKEL 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.11558145E 04 P.E.=-0.23116174E 04
K.E.= 0.11558028E 04 V.T.=-0.20000099E 01

S		1S		2S		P		2P
BASIS/ORB E		-346.67882		-71.92411	BASIS/ORB E		-68.55960	
1S	27.45230	0.97840		-0.33254	2P	12.32490	0.65071	
1S	45.84450	0.01690		0.00287	2P	19.37710	0.07687	
2S	12.52060	0.00993		0.58496	2P	11.28090	0.28234	
2S	22.25040	0.00673		-0.23803	2P	38.41110	0.00100	
2S	11.66050	-0.00800		0.64795				

*ZINC 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.13354976E 04 P.E.=-0.26709837E 04
K.E.= 0.13354862E 04 V.T.=-0.20000085E 01

S		1S		2S		P		2P
BASIS/ORB E		-401.22323		-84.44134	BASIS/ORB E		-80.80418	
1S	29.44920	0.97980		-0.33475	2P	13.34370	0.65140	
1S	49.16590	0.01584		0.00300	2P	20.93450	0.07157	
2S	13.46540	0.01041		0.61622	2P	12.25460	0.28624	
2S	23.84630	0.00620		-0.24546	2P	41.38340	0.00089	
2S	12.62100	-0.00856		0.62392				

TABLE 12- 04

*GALLIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.14302143E 04 P.E.=-0.28604156E 04
K.E.= 0.14302012E 04 V.T.=-0.20000091E 01

S		1S		2S	P		2P
BASIS/ORB E	-429.99568	-91.07504	BASIS/ORB E	-87.30158			
1S 30.44770	0.98043	-0.33575	2P 13.85310	0.65164			
1S 50.82660	0.01536	0.00307	2P 21.71320	0.06917			
2S 13.93780	0.01065	0.63257	2P 12.74140	0.28807			
2S 24.64430	0.00596	-0.24888	2P 42.86950	0.00085			
2S 13.10130	-0.00883	0.61092					

*ARSENIC 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.16293982E 04 P.E.=-0.32587872E 04
K.E.= 0.16293889E 04 V.T.=-0.20000056E 01

S		1S		2S	P		2P
BASIS/ORB E	-490.54088	-105.09259	BASIS/ORB E	-101.04651			
1S 32.44460	0.98160	-0.33756	2P 14.87190	0.65193			
1S 54.14790	0.01449	0.00317	2P 23.27060	0.06481			
2S 14.88270	0.01115	0.66724	2P 13.71500	0.29157			
2S 26.24020	0.00551	-0.25529	2P 45.84170	0.00077			
2S 14.06180	-0.00939	0.58251					

*BROMINE 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.18415827E 04 P.E.=-0.36831515E 04
K.E.= 0.18415687E 04 V.T.=-0.20000076E 01

S		1S		2S	P		2P
BASIS/ORB E	-555.08661	-120.11031	BASIS/ORB E	-115.79167			
1S 34.44150	0.98264	-0.33916	2P 15.89060	0.65205			
1S 57.46930	0.01372	0.00327	2P 24.82800	0.06095			
2S 15.82760	0.01167	0.70386	2P 14.68860	0.29480			
2S 27.83610	0.00511	-0.26110	2P 48.81390	0.00070			
2S 15.02230	-0.00996	0.55159					

*GERMANIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.15281814E 04 P.E.=-0.30563544E 04
K.E.= 0.15281732E 04 V.T.=-0.20000053E 01

S		1S		2S	P		2P
BASIS/ORB E	-459.76814	-97.95878	BASIS/ORB E	-94.04901			
1S 31.44610	0.98104	-0.33668	2P 14.36250	0.65180			
1S 52.48720	0.01491	0.00312	2P 22.49190	0.06692			
2S 14.41030	0.01092	0.64960	2P 13.22820	0.28986			
2S 25.44220	0.00572	-0.25217	2P 44.35560	0.00081			
2S 13.58160	-0.00913	0.59710					

*SELENIUM 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.17338654E 04 P.E.=-0.34677164E 04
K.E.= 0.17338508E 04 V.T.=-0.20000084E 01

S		1S		2S	P		2P
BASIS/ORB E	-522.31374	-112.47645	BASIS/ORB E	-108.29409			
1S 33.44310	0.98214	-0.33838	2P 15.38120	0.65202			
1S 55.80860	0.01409	0.00322	2P 24.04930	0.06283			
2S 15.35510	0.01145	0.68526	2P 14.20180	0.29321			
2S 27.03810	0.00530	-0.25826	2P 47.32780	0.00073			
2S 14.54210	-0.00971	0.56740					

*KRYPTON 1S(2)2S(2)2P(3), 7-2P
T.E.=-0.19525500E 04 P.E.=-0.39050870E 04
K.E.= 0.19525369E 04 V.T.=-0.20000067E 01

S		1S		2S	P		2P
BASIS/ORB E	-588.85957	-127.99421	BASIS/ORB E	-123.53931			
1S 35.44000	0.98312	-0.33989	2P 16.40000	0.65203			
1S 59.13000	0.01336	0.00332	2P 25.60670	0.05917			
2S 16.30000	0.01197	0.72301	2P 15.17540	0.29637			
2S 28.63400	0.00491	-0.26382	2P 50.30000	0.00067			
2S 15.50260	-0.01029	0.53510					

TABLE 13- 01

*OXYGEN 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.74809346E 02 P.E.=-0.14961853E 03
K.E.= 0.74809182E 02 V.T.=-0.20000021E 01

S		1S		2S		P		2P
BASIS/ORB	E	-20.66860		-1.24423	BASIS/ORB	E		-0.63177
1S	7.60630	0.93472		-0.22137	2P	1.79600		0.57599
1S	13.22400	0.04110		-0.00521	2P	3.43790		0.33391
2S	3.14410	0.00230		0.49610	2P	1.15360		0.16373
2S	6.37830	0.03532		-0.10441	2P	7.90700		0.01495
2S	1.87920	0.00013		0.62588				

*NEON 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.12637194E 03 P.E.=-0.25274753E 03
K.E.= 0.12637559E 03 V.T.=-0.19999710E 01

S		1S		2S		P		2P
BASIS/ORB	E	-34.63287		-3.40798	BASIS/ORB	E		-2.51508
1S	9.62057	0.94075		-0.25571	2P	2.84711		0.63222
1S	16.45300	0.03493		0.00031	2P	5.04222		0.26070
2S	4.06952	0.00269		0.42244	2P	2.10605		0.15252
2S	8.04157	0.03435		-0.10501	2P	11.19610		0.00851
2S	2.83783	-0.00028		0.68954				

*MAGNESIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.19198274E 03 P.E.=-0.38396943E 03
K.E.= 0.19198669E 03 V.T.=-0.19999793E 01

S		1S		2S		P		2P
BASIS/ORB	E	-52.64898		-6.60318	BASIS/ORB	E		-5.42320
1S	11.63480	0.94609		-0.27525	2P	3.89823		0.66199
1S	19.68200	0.03027		0.00193	2P	6.65732		0.21027
2S	4.99494	0.00255		0.38936	2P	3.05850		0.16176
2S	9.70482	0.03292		-0.11860	2P	14.46710		0.00539
2S	3.79646	-0.00052		0.73034				

*SILICON 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.27161600E 03 P.E.=-0.54323463E 03
K.E.= 0.27161863E 03 V.T.=-0.19999903E 01

S		1S		2S		P		2P
BASIS/ORB	E	-74.68768		-10.80989	BASIS/ORB	E		-9.34148
1S	13.64910	0.95068		-0.28778	2P	4.94934		0.67808
1S	22.91100	0.02661		0.00236	2P	8.28320		0.17424
2S	5.92036	0.00213		0.37450	2P	4.01095		0.17520
2S	11.36810	0.03145		-0.13451	2P	17.71980		0.00369
2S	4.75509	-0.00056		0.75730				

*FLUORINE 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.98831610E 02 P.E.=-0.19766538E 03
K.E.= 0.98833769E 02 V.T.=-0.19999781E 01

S		1S		2S		P		2P
BASIS/ORB	E	-27.14056		-2.19441	BASIS/ORB	E		-1.44339
1S	8.61345	0.93780		-0.24125	2P	2.32156		0.60881
1S	14.83850	0.03779		-0.00160	2P	4.23871		0.29380
2S	3.60681	0.00259		0.45129	2P	1.62983		0.15295
2S	7.20995	0.03494		-0.10165	2P	9.55383		0.01110
2S	2.35852	-0.00009		0.66174				

*SODIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.15742353E 03 P.E.=-0.31485122E 03
K.E.= 0.15742768E 03 V.T.=-0.19999736E 01

S		1S		2S		P		2P
BASIS/ORB	E	-43.13704		-4.87850	BASIS/ORB	E		-3.84236
1S	10.62770	0.94352		-0.26668	2P	3.37267		0.64936
1S	18.06750	0.03245		0.00136	2P	5.84842		0.23324
2S	4.53223	0.00266		0.40284	2P	2.58228		0.15619
2S	8.87320	0.03366		-0.11117	2P	12.83390		0.00670
2S	3.31714	-0.00043		0.71200				

*ALUMINUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.23004737E 03 P.E.=-0.46009820E 03
K.E.= 0.23005082E 03 V.T.=-0.19999850E 01

S		1S		2S		P		2P
BASIS/ORB	E	-63.16634		-8.58059	BASIS/ORB	E		-7.25647
1S	12.64190	0.94848		-0.28213	2P	4.42378		0.67129
1S	21.29650	0.02833		0.00223	2P	7.46891		0.19084
2S	5.45765	0.00237		0.38028	2P	3.53473		0.16827
2S	10.53640	0.03218		-0.12652	2P	16.09570		0.00442
2S	4.27577	-0.00057		0.74526				

*PHOSPHORUS 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.31668770E 03 P.E.=-0.63337740E 03
K.E.= 0.31668971E 03 V.T.=-0.19999935E 01

S		1S		2S		P		2P
BASIS/ORB	E	-87.21200		-13.29056	BASIS/ORB	E		-11.67781
1S	14.65620	0.95271		-0.29249	2P	5.47490		0.68294
1S	24.52550	0.02506		0.00239	2P	9.10018		0.15993
2S	6.38307	0.00187		0.37137	2P	4.48717		0.18230
2S	12.19970	0.03075		-0.14235	2P	19.33940		0.00311
2S	5.23440	-0.00052		0.76684				

TABLE 13- 02

*SULFUR 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.36526178E 03 P.E.=-0.73052308E 03
K.E.= 0.36526129E 03 V.T.=-0.20000012E 01

S		1S		2S		P		2P
BASIS/ORB E		-100.73866		-16.02226	BASIS/ORB E		-14.26513	
1S	15.66330	0.95459		-0.29648	2P	6.00046	0.68635	
1S	26.14000	0.02366		0.00236	2P	9.91985	0.14749	
2S	6.84578	0.00157		0.37035	2P	4.96340	0.18937	
2S	13.03130	0.03007		-0.14992	2P	20.95440	0.00266	
2S	5.71372	-0.00043		0.77420				

*ARGON 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.47291523E 03 P.E.=-0.94583064E 03
K.E.= 0.47291538E 03 V.T.=-0.19999997E 01

S		1S		2S		P		2P
BASIS/ORB E		-130.79713		-22.23788	BASIS/ORB E		-20.19201	
1S	17.67760	0.95792		-0.30289	2P	7.05157	0.69004	
1S	29.36900	0.02124		0.00219	2P	11.56730	0.12696	
2S	7.77121	0.00089		0.37343	2P	5.91585	0.20313	
2S	14.69460	0.02882		-0.16405	2P	24.17080	0.00200	
2S	6.67234	-0.00014		0.78327				

*CALCIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.59457381E 03 P.E.=-0.11891474E 04
K.E.= 0.59457358E 03 V.T.=-0.20000003E 01

S		1S		2S		P		2P
BASIS/ORB E		-164.86054		-29.45553	BASIS/ORB E		-27.12097	
1S	19.69180	0.96080		-0.30781	2P	8.10268	0.69095	
1S	32.59800	0.01922		0.00198	2P	13.22550	0.11077	
2S	8.69663	0.00015		0.38187	2P	6.86830	0.21607	
2S	16.35780	0.02769		-0.17675	2P	27.36900	0.00155	
2S	7.63097	0.00027		0.78600				

*TITANIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.73023592E 03 P.E.=-0.14604712E 04
K.E.= 0.73023530E 03 V.T.=-0.20000008E 01

S		1S		2S		P		2P
BASIS/ORB E		-202.92739		-37.67454	BASIS/ORB E		-35.05139	
1S	21.70610	0.96328		-0.31171	2P	9.15380	0.69014	
1S	35.82700	0.01751		0.00175	2P	14.89450	0.09773	
2S	9.62205	-0.00066		0.39463	2P	7.82075	0.22810	
2S	18.02110	0.02669		-0.18810	2P	30.54900	0.00124	
2S	8.58960	0.00079		0.78338				

*CHLORINE 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.41733775E 03 P.E.=-0.83467603E 03
K.E.= 0.41733828E 03 V.T.=-0.19999986E 01

S		1S		2S		P		2P
BASIS/ORB E		-115.26716		-19.00476	BASIS/ORB E		-17.10325	
1S	16.67040	0.95632		-0.29991	2P	6.52601	0.68864	
1S	27.75450	0.02240		0.00229	2P	10.74220	0.13658	
2S	7.30849	0.00125		0.37113	2P	5.43962	0.19634	
2S	13.86290	0.02942		-0.15716	2P	22.56490	0.00230	
2S	6.19303	-0.00031		0.77961				

*POTASSIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.53199399E 03 P.E.=-0.10639877E 04
K.E.= 0.53199368E 03 V.T.=-0.20000006E 01

S		1S		2S		P		2P
BASIS/ORB E		-147.32834		-25.72150	BASIS/ORB E		-23.53128	
1S	18.68470	0.95941		-0.30550	2P	7.57713	0.69077	
1S	30.98350	0.02019		0.00209	2P	12.39510	0.11841	
2S	8.23392	0.00054		0.37704	2P	6.39207	0.20971	
2S	15.52620	0.02824		-0.17058	2P	25.77210	0.00176	
2S	7.15166	0.00004		0.78537				

*SCANDIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.66065450E 03 P.E.=-0.13213085E 04
K.E.= 0.66065394E 03 V.T.=-0.20000007E 01

S		1S		2S		P		2P
BASIS/ORB E		-183.39361		-33.43989	BASIS/ORB E		-30.96103	
1S	20.69890	0.96208		-0.30987	2P	8.62824	0.69071	
1S	34.21250	0.01833		0.00186	2P	14.05870	0.10392	
2S	9.15934	-0.00024		0.38777	2P	7.34452	0.22220	
2S	17.18940	0.02717		-0.18259	2P	28.96130	0.00138	
2S	8.11029	0.00051		0.78530				

*VANADIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.80331799E 03 P.E.=-0.16066357E 04
K.E.= 0.80331770E 03 V.T.=-0.20000003E 01

S		1S		2S		P		2P
BASIS/ORB E		-223.46178		-42.15943	BASIS/ORB E		-39.39200	
1S	22.71320	0.96440		-0.31337	2P	9.67936	0.68932	
1S	37.44150	0.01674		0.00164	2P	15.73310	0.09211	
2S	10.08480	-0.00108		0.40243	2P	8.29697	0.23375	
2S	18.85270	0.02622		-0.19330	2P	32.13220	0.00111	
2S	9.06892	0.00108		0.78028				

*CHROMIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.87990057E 03 P.E.=-0.17598014E 04
K.E.= 0.87990092E 03 V.T.=-0.19999996E 01

S		1S		2S		P		2P
BASIS/ORB E	-244.99667		-46.89451	BASIS/ORB E		-43.98284		
1S	23.72030	0.96545		-0.31488	2P	10.20490		0.68828
1S	39.05600	0.01603		0.00153	2P	16.57430		0.08701
2S	10.54750	-0.00154		0.41112	2P	8.77320		0.23919
2S	19.68430	0.02579		-0.19823	2P	33.71080		0.00100
2S	9.54823	0.00141		0.77605				

*IRON 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.10435671E 04 P.E.=-0.20871308E 04
K.E.= 0.10435636E 04 V.T.=-0.20000034E 01

S		1S		2S		P		2P
BASIS/ORB E	-291.06785		-57.11518	BASIS/ORB E		-53.91506		
1S	25.73460	0.96735		-0.31752	2P	11.25600		0.68580
1S	42.28500	0.01475		0.00133	2P	18.26490		0.07807
2S	11.47290	-0.00247		0.43096	2P	9.72565		0.24938
2S	21.34760	0.02499		-0.20729	2P	36.85450		0.00083
2S	10.50690	0.00213		0.76447				

NICKEL 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.12212352E 04 P.E.=-0.24424738E 04
K.E.= 0.12212384E 04 V.T.=-0.19999973E 01

S		1S		2S		P		2P
BASIS/ORB E	-341.14037		-68.33637	BASIS/ORB E		-64.84787		
1S	27.74880	0.96904		-0.31974	2P	12.30710		0.68292
1S	45.51400	0.01363		0.00114	2P	19.96620		0.07051
2S	12.39830	-0.00345		0.45405	2P	10.67810		0.25879
2S	23.01080	0.02426		-0.21542	2P	39.98000		0.00070
2S	11.46550	0.00292		0.74883				

*ZINC 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.14129045E 04 P.E.=-0.28258149E 04
K.E.= 0.14129104E 04 V.T.=-0.19999958E 01

S		1S		2S		P		2P
BASIS/ORB E	-395.21403		-80.55797	BASIS/ORB E		-76.78114		
1S	29.76310	0.97054		-0.32165	2P	13.35830		0.67984
1S	48.74300	0.01264		0.00098	2P	21.67830		0.06404
2S	13.32370	-0.00454		0.48037	2P	11.63050		0.26747
2S	24.67410	0.02361		-0.22276	2P	43.08720		0.00059
2S	12.42410	0.00384		0.72928				

*MANGANESE 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.95998371E 03 P.E.=-0.19199683E 04
K.E.= 0.95998454E 03 V.T.=-0.19999991E 01

S		1S		2S		P		2P
BASIS/ORB E	-267.53205		-51.87977	BASIS/ORB E		-48.82387		
1S	24.72740	0.96643		-0.31626	2P	10.73050		0.68709
1S	40.67050	0.01537		0.00143	2P	17.41820		0.08234
2S	11.01020	-0.00198		0.42065	2P	9.24942		0.24441
2S	20.51590	0.02537		-0.20288	2P	35.28490		0.00091
2S	10.02750	0.00175		0.77075				

*COBALT 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.11306509E 04 P.E.=-0.22613044E 04
K.E.= 0.11306535E 04 V.T.=-0.19999977E 01

S		1S		2S		P		2P
BASIS/ORB E	-315.60393		-62.60072	BASIS/ORB E		-59.25640		
1S	26.74170	0.96822		-0.31868	2P	11.78160		0.68438
1S	43.89950	0.01417		0.00123	2P	19.11420		0.07413
2S	11.93560	-0.00295		0.44211	2P	10.20190		0.25421
2S	22.17920	0.02461		-0.21146	2P	38.41950		0.00076
2S	10.98620	0.00252		0.75714				

*COPPER 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.13153197E 04 P.E.=-0.26306441E 04
K.E.= 0.13153244E 04 V.T.=-0.19999964E 01

S		1S		2S		P		2P
BASIS/ORB E	-367.67706		-74.32213	BASIS/ORB E		-70.68946		
1S	28.75590	0.96981		-0.32073	2P	12.83270		0.68140
1S	47.12850	0.01312		0.00106	2P	20.82090		0.06715
2S	12.86100	-0.00398		0.46680	2P	11.15430		0.26322
2S	23.84240	0.02392		-0.21918	2P	41.53590		0.00064
2S	11.94480	0.00336		0.73955				

*GALLIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.15139893E 04 P.E.=-0.30279861E 04
K.E.= 0.15139966E 04 V.T.=-0.19999951E 01

S		1S		2S		P		2P
BASIS/ORB E	-423.75119		-87.04390	BASIS/ORB E		-83.12292		
1S	30.77020	0.97123		-0.32250	2P	13.88380		0.67826
1S	50.35750	0.01219		0.00090	2P	22.53840		0.06115
2S	13.78640	-0.00511		0.49477	2P	12.10680		0.27155
2S	25.50570	0.02330		-0.22616	2P	44.63410		0.00055
2S	12.90340	0.00433		0.71803				

TABLE 13- 04

*GERMANIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.16185745E 04 P.E.=-0.32371578E 04
K.E.= 0.16185833E 04 V.T.=-0.19999945E 01

S	1S	2S	P	2P
BASIS/ORB E	-453.28859	-93.77990	BASIS/ORB E	-89.71479
1S 31.77730	0.97189	-0.32329	2P 14.40940	0.67667
1S 51.97200	0.01176	0.00082	2P 23.40120	0.05845
2S 14.24920	-0.00568	0.50994	2P 12.58300	0.27548
2S 26.33730	0.02301	-0.22940	2P 46.17630	0.00051
2S 13.38270	0.00483	0.70586		

*SELENIUM 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.18382455E 04 P.E.=-0.36765040E 04
K.E.= 0.18382586E 04 V.T.=-0.19999927E 01

S	1S	2S	P	2P
BASIS/ORB E	-515.36382	-108.00206	BASIS/ORB E	-103.64872
1S 33.79160	0.97310	-0.32474	2P 15.46050	0.67349
1S 55.20100	0.01097	0.00068	2P 25.13490	0.05358
2S 15.17460	-0.00691	0.54277	2P 13.53540	0.28287
2S 28.00060	0.02247	-0.23542	2P 49.24730	0.00044
2S 14.34140	0.00594	0.67862		

*KRYPTON 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.20719168E 04 P.E.=-0.41438472E 04
K.E.= 0.20719302E 04 V.T.=-0.19999935E 01

S	1S	2S	P	2P
BASIS/ORB E	-581.43971	-123.22446	BASIS/ORB E	-118.58291
1S 35.80580	0.97420	-0.32602	2P 16.51160	0.67032
1S 58.43000	0.01026	0.00056	2P 26.87940	0.04930
2S 16.10000	-0.00824	0.57941	2P 14.48790	0.28973
2S 29.66380	0.02198	-0.24091	2P 52.30000	0.00039
2S 15.30000	0.00715	0.64711		

*ARSENIC 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.17266598E 04 P.E.=-0.34533300E 04
K.E.= 0.17266700E 04 V.T.=-0.19999941E 01

S	1S	2S	P	2P
BASIS/ORB E	-483.82607	-100.76593	BASIS/ORB E	-96.55671
1S 32.78440	0.97252	-0.32405	2P 14.93490	0.67510
1S 53.58650	0.01135	0.00075	2P 24.26670	0.05593
2S 14.71190	-0.00623	0.52584	2P 13.05920	0.27922
2S 27.16890	0.02272	-0.23247	2P 47.71410	0.00048
2S 13.86210	0.00533	0.69282		

*BROMINE 1S(2)2S(2)2P(4), 8-3P
T.E.=-0.19533311E 04 P.E.=-0.39066908E 04
K.E.= 0.19533597E 04 V.T.=-0.19999854E 01

S	1S	2S	P	2P
BASIS/ORB E	-547.90150	-115.48820	BASIS/ORB E	-110.99075
1S 34.79870	0.97366	-0.32540	2P 15.98600	0.67189
1S 56.81550	0.01061	0.00062	2P 26.00580	0.05138
2S 15.63730	-0.00759	0.56063	2P 14.01170	0.28636
2S 28.83220	0.02222	-0.23823	2P 50.77590	0.00042
2S 14.82070	0.00655	0.66339		

TABLE 14- 01

*OXYGEN 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.74729200E 02 P.E.=-0.14945791E 03
K.E.= 0.74728709E 02 V.T.=-0.20000064E 01

S		1S		2S		P		2P
BASIS/ORB	E	-20.69319		-1.25643	BASIS/ORB	E	-0.60061	
1S	7.60920	0.93611		-0.22189	2P	1.74050	0.60066	
1S	13.32400	0.03986		-0.00512	2P	3.41980	0.34396	
2S	3.13940	0.00238		0.50240	2P	1.06260	0.13325	
2S	6.37830	0.03508		-0.10509	2P	7.88900	0.01500	
2S	1.87920	0.00009		0.62004				

*NEON 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.12624650E 03 P.E.=-0.25249679E 03
K.E.= 0.12625029E 03 V.T.=-0.19999699E 01

S		1S		2S		P		2P
BASIS/ORB	E	-34.65487		-3.41763	BASIS/ORB	E	-2.46027	
1S	9.60426	0.94382		-0.25759	2P	2.79896	0.66141	
1S	16.59590	0.03425		0.00076	2P	5.09237	0.26206	
2S	4.06516	0.00315		0.42839	2P	2.03903	0.12452	
2S	7.97985	0.03134		-0.10490	2P	11.25900	0.00742	
2S	2.83783	-0.00052		0.68478				

*MAGNESIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.19181363E 03 P.E.=-0.38363104E 03
K.E.= 0.19181740E 03 V.T.=-0.19999802E 01

S		1S		2S		P		2P
BASIS/ORB	E	-52.67009		-6.61197	BASIS/ORB	E	-5.34625	
1S	11.59930	0.95010		-0.27832	2P	3.85743	0.68728	
1S	19.86770	0.03006		0.00269	2P	6.76494	0.20832	
2S	4.99091	0.00353		0.39688	2P	3.01546	0.14047	
2S	9.58140	0.02808		-0.11828	2P	14.62900	0.00421	
2S	3.79646	-0.00109		0.72493				

*SILICON 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.27140380E 03 P.E.=-0.54280959E 03
K.E.= 0.27140579E 03 V.T.=-0.19999927E 01

S		1S		2S		P		2P
BASIS/ORB	E	-74.70826		-10.81822	BASIS/ORB	E	-9.24282	
1S	13.59440	0.95524		-0.29196	2P	4.91589	0.69503	
1S	23.13960	0.02682		0.00344	2P	8.43751	0.17145	
2S	5.91667	0.00375		0.38481	2P	3.99189	0.16274	
2S	11.18300	0.02530		-0.13433	2P	17.99900	0.00261	
2S	4.75509	-0.00157		0.75019				

*FLUORINE 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.98728465E 02 P.E.=-0.19745924E 03
K.E.= 0.98730766E 02 V.T.=-0.19999766E 01

S		1S		2S		P		2P
BASIS/ORB	E	-27.16341		-2.20490	BASIS/ORB	E	-1.40004	
1S	8.60673	0.94016		-0.24248	2P	2.26973	0.63700	
1S	14.95990	0.03683		-0.00131	2P	4.25609	0.29860	
2S	3.60228	0.00284		0.45708	2P	1.55081	0.12296	
2S	7.17908	0.03316		-0.10183	2P	9.57400	0.01034	
2S	2.35851	-0.00022		0.65675				

*SODIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.15727615E 03 P.E.=-0.31455650E 03
K.E.= 0.15728035E 03 V.T.=-0.19999733E 01

S		1S		2S		P		2P
BASIS/ORB	E	-43.15852		-4.88764	BASIS/ORB	E	-3.77641	
1S	10.60180	0.94712		-0.26916	2P	3.32820	0.67738	
1S	18.23180	0.03201		0.00196	2P	5.92866	0.23250	
2S	4.52804	0.00336		0.40941	2P	2.52724	0.13117	
2S	8.78063	0.02966		-0.11091	2P	12.94400	0.00551	
2S	3.31714	-0.00081		0.70707				

*ALUMINUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.22985666E 03 P.E.=-0.45971633E 03
K.E.= 0.22985967E 03 V.T.=-0.19999868E 01

S		1S		2S		P		2P
BASIS/ORB	E	-63.18716		-8.58911	BASIS/ORB	E	-7.16863	
1S	12.59680	0.95279		-0.28577	2P	4.38666	0.69277	
1S	21.50360	0.02835		0.00315	2P	7.60123	0.18827	
2S	5.45379	0.00365		0.38905	2P	3.50367	0.15121	
2S	10.38220	0.02663		-0.12624	2P	16.31400	0.00328	
2S	4.27577	-0.00134		0.73912				

*PHOSPHORUS 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.31645408E 03 P.E.=-0.63290909E 03
K.E.= 0.31645500E 03 V.T.=-0.19999970E 01

S		1S		2S		P		2P
BASIS/ORB	E	-87.23241		-13.29873	BASIS/ORB	E	-11.56837	
1S	14.59190	0.95747		-0.29720	2P	5.44513	0.69494	
1S	24.77550	0.02546		0.00363	2P	9.27380	0.15715	
2S	6.37955	0.00384		0.38344	2P	4.48010	0.17464	
2S	11.98370	0.02405		-0.14232	2P	19.68400	0.00210	
2S	5.23440	-0.00178		0.75853				

*SULFUR 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.36500678E 03 P.E.=-0.73001356E 03
K.E.= 0.36500677E 03 V.T.=-0.20000000E 01

S		1S		2S		P		2P
BASIS/ORB E	-100.75887		-16.03030	BASIS/ORB E		-14.14495		
1S	15.58940	0.95950		-0.30169	2P	5.97436		0.69314
1S	26.41140	0.02423		0.00376	2P	10.11010		0.14489
2S	6.84243	0.00393		0.38441	2P	4.96831		0.18662
2S	12.78450	0.02290		-0.15007	2P	21.36900		0.00172
2S	5.71371	-0.00199		0.76447				

*ARGON 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.47261766E 03 P.E.=-0.94523495E 03
K.E.= 0.47261730E 03 V.T.=-0.20000006E 01

S		1S		2S		P		2P
BASIS/ORB E	-130.81710		-22.24572	BASIS/ORB E		-20.05042		
1S	17.58450	0.96307		-0.30903	2P	7.03282		0.68615
1S	29.68330	0.02212		0.00392	2P	11.78270		0.12497
2S	7.76819	0.00410		0.39206	2P	5.94474		0.21024
2S	14.38600	0.02085		-0.16465	2P	24.73900		0.00119
2S	6.67234	-0.00236		0.77011				

*CALCIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.59423370E 03 P.E.=-0.11884642E 04
K.E.= 0.59423045E 03 V.T.=-0.20000055E 01

S		1S		2S		P		2P
BASIS/ORB E	-164.88030		-29.46322	BASIS/ORB E		-26.95806		
1S	19.57950	0.96610		-0.31477	2P	8.09129		0.67649
1S	32.95510	0.02036		0.00399	2P	13.45520		0.10955
2S	8.69394	0.00429		0.40585	2P	6.92117		0.23282
2S	15.98760	0.01907		-0.17786	2P	28.10900		0.00086
2S	7.63097	-0.00272		0.76862				

*TITANIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.72985336E 03 P.E.=-0.14597007E 04
K.E.= 0.72984727E 03 V.T.=-0.20000082E 01

S		1S		2S		P		2P
BASIS/ORB E	-202.94708		-37.68216	BASIS/ORB E		-34.86722		
1S	21.57460	0.96869		-0.31941	2P	9.14975		0.66558
1S	36.22700	0.01887		0.00403	2P	15.12780		0.09728
2S	9.61970	0.00452		0.42467	2P	7.89760		0.25403
2S	17.58910	0.01751		-0.18974	2P	31.47900		0.00064
2S	8.58960	-0.00309		0.76101				

*CHLORINE 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.41706141E 03 P.E.=-0.83412148E 03
K.E.= 0.41706006E 03 V.T.=-0.20000032E 01

S		1S		2S		P		2P
BASIS/ORB E	-115.28727		-19.01270	BASIS/ORB E		-16.97237		
1S	16.58700	0.96136		-0.30560	2P	6.50359		0.69010
1S	28.04740	0.02312		0.00385	2P	10.94640		0.13426
2S	7.30531	0.00401		0.38737	2P	5.45653		0.19853
2S	13.58530	0.02184		-0.15753	2P	23.05400		0.00142
2S	6.19303	-0.00218		0.76827				

*POTASSIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.53167513E 03 P.E.=-0.10633471E 04
K.E.= 0.53167193E 03 V.T.=-0.20000059E 01

S		1S		2S		P		2P
BASIS/ORB E	-147.34824		-25.72927	BASIS/ORB E		-23.37904		
1S	18.58200	0.96464		-0.31206	2P	7.56205		0.68155
1S	31.31920	0.02120		0.00396	2P	12.61890		0.11679
2S	8.23106	0.00419		0.39827	2P	6.43296		0.22168
2S	15.18680	0.01993		-0.17142	2P	26.42400		0.00100
2S	7.15166	-0.00254		0.77019				

*SCANDIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.66029317E 03 P.E.=-0.13205814E 04
K.E.= 0.66028828E 03 V.T.=-0.20000073E 01

S		1S		2S		P		2P
BASIS/ORB E	-183.41335		-33.44755	BASIS/ORB E		-30.78749		
1S	20.57710	0.96744		-0.31721	2P	8.62052		0.67113
1S	34.59110	0.01958		0.00401	2P	14.29150		0.10308
2S	9.15682	0.00440		0.41468	2P	7.40939		0.24361
2S	16.78840	0.01827		-0.18396	2P	29.79400		0.00073
2S	8.11029	-0.00290		0.76553				

*VANADIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.80291425E 03 P.E.=-0.16058221E 04
K.E.= 0.80290788E 03 V.T.=-0.20000079E 01

S		1S		2S		P		2P
BASIS/ORB E	-223.48139		-42.16699	BASIS/ORB E		-39.19721		
1S	22.57210	0.96986		-0.32142	2P	9.67898		0.65992
1S	37.86290	0.01821		0.00405	2P	15.96410		0.09204
2S	10.08260	0.00465		0.43574	2P	8.38581		0.26408
2S	18.38990	0.01681		-0.19521	2P	33.16400		0.00055
2S	9.06891	-0.00327		0.75514				

*CHROMIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.87947568E 03 P.E.=-0.17589469E 04
K.E.= 0.87947123E 03 V.T.=-0.20000050E 01

S		1S		2S	P		2P
BASIS/ORB E		-245.01621		-46.90204	BASIS/ORB E		-43.77742
1S	23.56970	0.97094		-0.32325	2P	10.20820	0.65420
1S	39.49890	0.01759		0.00406	2P	16.80040	0.08730
2S	10.54550	0.00478		0.44788	2P	8.87403	0.27378
2S	19.19070	0.01615		-0.20040	2P	34.84900	0.00049
2S	9.54823	-0.00345		0.74795			

*IRON 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.10431000E 04 P.E.=-0.20861899E 04
K.E.= 0.10430899E 04 V.T.=-0.20000096E 01

S		1S		2S	P		2P
BASIS/ORB E		-291.08737		-57.12267	BASIS/ORB E		-53.68844
1S	25.56470	0.97290		-0.32648	2P	11.26670	0.64279
1S	42.77070	0.01649		0.00409	2P	18.47290	0.07905
2S	11.47120	0.00508		0.47520	2P	9.85046	0.29213
2S	20.79220	0.01494		-0.21000	2P	38.21900	0.00038
2S	10.50690	-0.00384		0.72984			

*NICKEL 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.12207256E 04 P.E.=-0.24414422E 04
K.E.= 0.12207164E 04 V.T.=-0.20000076E 01

S		1S		2S	P		2P
BASIS/ORB E		-341.15984		-68.34382	BASIS/ORB E		-64.60006
1S	27.55980	0.97463		-0.32924	2P	12.32510	0.63165
1S	46.04260	0.01553		0.00411	2P	20.14550	0.07211
2S	12.39700	0.00541		0.50644	2P	10.82690	0.30908
2S	22.39380	0.01387		-0.21865	2P	41.58900	0.00031
2S	11.46550	-0.00423		0.70695			

*ZINC 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.14123526E 04 P.E.=-0.28246967E 04
K.E.= 0.14123440E 04 V.T.=-0.20000061E 01

S		1S		2S	P		2P
BASIS/ORB E		-395.23354		-80.56542	BASIS/ORB E		-76.51217
1S	29.55480	0.97616		-0.33163	2P	13.38360	0.62090
1S	49.31440	0.01468		0.00413	2P	21.81810	0.06620
2S	13.32270	0.00581		0.54167	2P	11.80330	0.32480
2S	23.99530	0.01290		-0.22647	2P	44.95900	0.00025
2S	12.42410	-0.00469		0.67931			

*MANGANESE 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.95953763E 03 P.E.=-0.19190674E 04
K.E.= 0.95952985E 03 V.T.=-0.20000080E 01

S		1S		2S	P		2P
BASIS/ORB E		-267.55161		-51.88728	BASIS/ORB E		-48.60785
1S	24.56720	0.97195		-0.32493	2P	10.73740	0.64849
1S	41.13480	0.01702		0.00407	2P	17.63670	0.08299
2S	11.00830	0.00492		0.46110	2P	9.36224	0.28311
2S	19.99150	0.01553		-0.20532	2P	36.53400	0.00043
2S	10.02750	-0.00364		0.73945			

*COBALT 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.11301626E 04 P.E.=-0.22603165E 04
K.E.= 0.11301538E 04 V.T.=-0.20000077E 01

S		1S		2S	P		2P
BASIS/ORB E		-315.62343		-62.60819	BASIS/ORB E		-59.01918
1S	26.56220	0.97379		-0.32791	2P	11.79590	0.63718
1S	44.40660	0.01599		0.00410	2P	19.30920	0.07544
2S	11.93410	0.00525		0.49031	2P	10.33870	0.30077
2S	21.59300	0.01439		-0.21443	2P	39.90400	0.00034
2S	10.98620	-0.00404		0.71901			

*COPPER 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.13147891E 04 P.E.=-0.26295692E 04
K.E.= 0.13147800E 04 V.T.=-0.20000067E 01

S		1S		2S	P		2P
BASIS/ORB E		-367.69649		-74.32956	BASIS/ORB E		-70.43105
1S	28.55730	0.97542		-0.33047	2P	12.85440	0.62621
1S	47.67850	0.01509		0.00412	2P	20.98180	0.06904
2S	12.85980	0.00560		0.52359	2P	11.31510	0.31711
2S	23.19460	0.01338		-0.22266	2P	43.27400	0.00028
2S	11.94480	-0.00445		0.69368			

*GALLIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.15134165E 04 P.E.=-0.30268233E 04
K.E.= 0.15134068E 04 V.T.=-0.20000064E 01

S		1S		2S	P		2P
BASIS/ORB E		-423.77062		-87.05131	BASIS/ORB E		-82.84335
1S	30.55240	0.97687		-0.33271	2P	13.91280	0.61573
1S	50.95040	0.01429		0.00414	2P	22.65440	0.06356
2S	13.78560	0.00602		0.56077	2P	12.29150	0.33219
2S	24.79610	0.01246		-0.23011	2P	46.64400	0.00023
2S	12.90340	-0.00492		0.66374			

TABLE 14- 04

*GERMANIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.16179805E 04 P.E.=-0.32359510E 04
K.E.= 0.16179704E 04 V.T.=-0.20000062E 01

S		1S		2S	P		2P
BASIS/ORB E	-453.30793	-93.78728	BASIS/ORB E	-89.42462			
1S	31.54990	0.97753	-0.33371	2P	14.44210	0.61062	
1S	52.58630	0.01392	0.00415	2P	23.49070	0.06111	
2S	14.24850	0.00625	0.58094	2P	12.77970	0.33936	
2S	25.59690	0.01204	-0.23358	2P	48.32900	0.00022	
2S	13.38270	-0.00517	0.64696				

*SELENIUM 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.18376093E 04 P.E.=-0.36752170E 04
K.E.= 0.18376078E 04 V.T.=-0.20000007E 01

S		1S		2S	P		2P
BASIS/ORB E	-515.38316	-108.00946	BASIS/ORB E	-103.33740			
1S	33.54490	0.97876	-0.33556	2P	15.50050	0.60085	
1S	55.85810	0.01324	0.00417	2P	25.16320	0.05668	
2S	15.17420	0.00673	0.62446	2P	13.75620	0.35284	
2S	27.19840	0.01125	-0.24005	2P	51.69900	0.00019	
2S	14.34140	-0.00569	0.60975				

*KRYPTON 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.20712385E 04 P.E.=-0.41424723E 04
K.E.= 0.20712338E 04 V.T.=-0.20000023E 01

S		1S		2S	P		2P
BASIS/ORB E	-581.45905	-123.23185	BASIS/ORB E	-118.25044			
1S	35.54000	0.97987	-0.33720	2P	16.55900	0.59157	
1S	59.13000	0.01264	0.00419	2P	26.83580	0.05279	
2S	16.10000	0.00729	0.67257	2P	14.73260	0.36539	
2S	28.80000	0.01054	-0.24597	2P	55.06900	0.00017	
2S	15.30000	-0.00627	0.56744				

*ARSENIC 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.17260448E 04 P.E.=-0.34520791E 04
K.E.= 0.17260344E 04 V.T.=-0.20000059E 01

S		1S		2S	P		2P
BASIS/ORB E	-483.84550	-100.77336	BASIS/ORB E	-96.25598			
1S	32.54740	0.97816	-0.33466	2P	14.97130	0.60566	
1S	54.22220	0.01357	0.00416	2P	24.32690	0.05882	
2S	14.71140	0.00648	0.60213	2P	13.26800	0.34624	
2S	26.39770	0.01164	-0.23689	2P	50.01400	0.00020	
2S	13.86210	-0.00542	0.62900				

*BROMINE 1S(2)2S(2)2P(4), 8-1D
T.E.=-0.19526738E 04 P.E.=-0.39053363E 04
K.E.= 0.19526625E 04 V.T.=-0.20000056E 01

S		1S		2S	P		2P
BASIS/ORB E	-547.92107	-115.49564	BASIS/ORB E	-110.66890			
1S	34.54250	0.97933	-0.33640	2P	16.02980	0.59614	
1S	57.49410	0.01293	0.00418	2P	25.99950	0.05467	
2S	15.63710	0.00698	0.64789	2P	14.24440	0.35924	
2S	27.99920	0.01089	-0.24307	2P	53.38400	0.00018	
2S	14.82070	-0.00596	0.58928				

TABLE 15- 01

*OXYGEN 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.74610944E 02 P.E.=-0.14922082E 03
K.E.= 0.74609881E 02 V.T.=-0.20000141E 01

S	1S	2S	P	2P
BASIS/ORB E	-20.73033	-1.27506	BASIS/ORB E	-0.55538
1S 7.60500	0.93659	-0.22258	2P 1.69850	0.56888
1S 13.32400	0.04002	-0.00526	2P 3.35170	0.36194
2S 3.14410	0.00240	0.50440	2P 1.05550	0.15047
2S 6.37830	0.03428	-0.10608	2P 7.66900	0.01716
2S 1.88720	0.00008	0.61864		

*NEON 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.12606011E 03 P.E.=-0.25212459E 03
K.E.= 0.12606446E 03 V.T.=-0.19999655E 01

S	1S	2S	P	2P
BASIS/ORB E	-34.68802	-3.43229	BASIS/ORB E	-2.37942
1S 9.60937	0.94200	-0.25800	2P 2.74965	0.64174
1S 16.44590	0.03517	0.00089	2P 5.02631	0.27729
2S 4.05512	0.00246	0.43470	2P 2.02362	0.13105
2S 7.98427	0.03272	-0.10503	2P 11.05470	0.00808
2S 2.83817	-0.00019	0.67845		

*MAGNESIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.19156173E 03 P.E.=-0.38312840E 03
K.E.= 0.19156667E 03 V.T.=-0.19999742E 01

S	1S	2S	P	2P
BASIS/ORB E	-52.70183	-6.62536	BASIS/ORB E	-5.23221
1S 11.61370	0.94704	-0.27856	2P 3.80080	0.67712
1S 19.56770	0.03130	0.00301	2P 6.70091	0.22119
2S 4.96614	0.00208	0.41120	2P 2.99174	0.13945
2S 9.59024	0.03086	-0.11846	2P 14.44040	0.00434
2S 3.78914	-0.00030	0.71048		

*SILICON 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.27108727E 03 P.E.=-0.54217844E 03
K.E.= 0.27109116E 03 V.T.=-0.19999856E 01

S	1S	2S	P	2P
BASIS/ORB E	-74.73921	-10.83097	BASIS/ORB E	-9.09625
1S 13.61810	0.95148	-0.29209	2P 4.85195	-0.69288
1S 22.68960	0.02814	0.00390	2P 8.37552	-0.18247
2S 5.87716	0.00152	0.40883	2P 3.95986	-0.15531
2S 11.19620	0.02902	-0.13464	2P 17.82610	-0.00252
2S 4.74011	-0.00024	0.72600		

*FLUORINE 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.98575568E 02 P.E.=-0.19715352E 03
K.E.= 0.98577953E 02 V.T.=-0.19999757E 01

S	1S	2S	P	2P
BASIS/ORB E	-27.19789	-2.22084	BASIS/ORB E	-1.33641
1S 8.60719	0.93931	-0.24301	2P 2.22408	0.61178
1S 14.88490	0.03745	-0.00130	2P 4.18900	0.31520
2S 3.59961	0.00251	0.46046	2P 1.53956	0.13409
2S 7.18129	0.03358	-0.10215	2P 9.36186	0.01154
2S 2.36269	-0.00007	0.65353		

*SODIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.15705685E 03 P.E.=-0.31411876E 03
K.E.= 0.15706190E 03 V.T.=-0.19999678E 01

S	1S	2S	P	2P
BASIS/ORB E	-43.19084	-4.90153	BASIS/ORB E	-3.67883
1S 10.61160	0.94458	-0.26948	2P 3.27523	0.66269
1S 18.00680	0.03313	0.00220	2P 5.86361	0.24649
2S 4.51063	0.00230	0.41945	2P 2.50768	0.13375
2S 8.78726	0.03181	-0.11102	2P 12.74760	0.00585
2S 3.31366	-0.00027	0.69693		

*ALUMINUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.22957238E 03 P.E.=-0.45914931E 03
K.E.= 0.22957692E 03 V.T.=-0.19999801E 01

S	1S	2S	P	2P
BASIS/ORB E	-63.21846	-8.60214	BASIS/ORB E	-7.03827
1S 12.61590	0.94933	-0.28595	2P 4.32638	0.68677
1S 21.12860	0.02964	0.00354	2P 7.53822	0.20016
2S 5.42165	0.00181	0.40805	2P 3.47580	0.14688
2S 10.39320	0.02993	-0.12648	2P 16.13330	0.00328
2S 4.26463	-0.00029	0.71998		

*PHOSPHORUS 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.31610540E 03 P.E.=-0.63221403E 03
K.E.= 0.31610862E 03 V.T.=-0.19999897E 01

S	1S	2S	P	2P
BASIS/ORB E	-87.26307	-13.31127	BASIS/ORB E	-11.40565
1S 14.62030	0.95348	-0.29728	2P 5.37753	0.69636
1S 24.25050	0.02678	0.00415	2P 9.21282	0.16742
2S 6.33268	0.00121	0.41277	2P 4.44393	0.16429
2S 11.99920	0.02815	-0.14269	2P 19.51900	0.00197
2S 5.21560	-0.00015	0.72899		

TABLE 15- 02

*SULFUR 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.36462606E 03 P.E.=-0.72925454E 03
K.E.= 0.36462848E 03 V.T.=-0.19999933E 01

S		1S		2S		P		2P
BASIS/ORB	E	-100.78933		-16.04268	BASIS/ORB	E	-13.96615	
1S	15.62250	0.95534		-0.30174	2P	5.90310	0.69789	
1S	25.81140	0.02553		0.00433	2P	10.05010	0.15448	
2S	6.78819	0.00089		0.41937	2P	4.92799	0.17353	
2S	12.80220	0.02732		-0.15048	2P	21.21190	0.00155	
2S	5.69109	-0.00004		0.72926				

*ARGON 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.47217295E 03 P.E.=-0.94434676E 03
K.E.= 0.47217381E 03 V.T.=-0.19999982E 01

S		1S		2S		P		2P
BASIS/ORB	E	-130.84717		-22.25784	BASIS/ORB	E	-19.83956	
1S	17.62690	0.95869		-0.30902	2P	6.95425	0.69691	
1S	28.93330	0.02333		0.00456	2P	11.72470	0.13343	
2S	7.69921	0.00023		0.43920	2P	5.89611	0.19213	
2S	14.40820	0.02578		-0.16508	2P	24.59760	0.00098	
2S	6.64206	0.00026		0.72261				

*CALCIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.59372523E 03 P.E.=-0.11874513E 04
K.E.= 0.59372608E 03 V.T.=-0.19999985E 01

S		1S		2S		P		2P
BASIS/ORB	E	-164.91011		-29.47516	BASIS/ORB	E	-26.71524	
1S	19.63120	0.96160		-0.31474	2P	8.00540	0.69255	
1S	32.05510	0.02146		0.00471	2P	13.39930	0.11709	
2S	8.61023	-0.00045		0.46652	2P	6.86423	0.21021	
2S	16.01410	0.02438		-0.17825	2P	27.98330	0.00063	
2S	7.59303	0.00066		0.70744				

*TITANIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.72928125E 03 P.E.=-0.14585630E 04
K.E.= 0.72928178E 03 V.T.=-0.19999993E 01

S		1S		2S		P		2P
BASIS/ORB	E	-202.97652		-37.69391	BASIS/ORB	E	-34.59246	
1S	21.63560	0.96414		-0.31937	2P	9.05655	0.68635	
1S	35.17700	0.01985		0.00483	2P	15.07390	0.10407	
2S	9.52125	-0.00116		0.50041	2P	7.83235	0.22736	
2S	17.62010	0.02314		-0.19006	2P	31.36900	0.00041	
2S	8.54400	0.00112		0.68460				

*CHLORINE 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.41664871E 03 P.E.=-0.83329961E 03
K.E.= 0.41665091E 03 V.T.=-0.19999947E 01

S		1S		2S		P		2P
BASIS/ORB	E	-115.31748		-19.02492	BASIS/ORB	E	-16.77751	
1S	16.62470	0.95707		-0.30561	2P	6.42867	0.69795	
1S	27.37240	0.02438		0.00446	2P	10.88740	0.14325	
2S	7.24370	0.00056		0.42828	2P	5.41205	0.18285	
2S	13.60520	0.02653		-0.15795	2P	22.90470	0.00122	
2S	6.16657	0.00010		0.72706				

*POTASSIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.53119856E 03 P.E.=-0.10623983E 04
K.E.= 0.53119977E 03 V.T.=-0.19999976E 01

S		1S		2S		P		2P
BASIS/ORB	E	-147.37813		-25.74128	BASIS/ORB	E	-23.15216	
1S	18.62900	0.96020		-0.31204	2P	7.47982	0.69503	
1S	30.49420	0.02236		0.00465	2P	12.56200	0.12477	
2S	8.15472	-0.00011		0.45201	2P	6.38017	0.20127	
2S	15.21110	0.02506		-0.17184	2P	26.29040	0.00078	
2S	7.11754	0.00045		0.71602				

*SCANDIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.65975284E 03 P.E.=-0.13195067E 04
K.E.= 0.65975388E 03 V.T.=-0.19999983E 01

S		1S		2S		P		2P
BASIS/ORB	E	-183.44296		-33.45939	BASIS/ORB	E	-30.52869	
1S	20.63340	0.96291		-0.31717	2P	8.53097	0.68962	
1S	33.61610	0.02063		0.00477	2P	14.23660	0.11023	
2S	9.06574	-0.00080		0.48268	2P	7.34829	0.21890	
2S	16.81710	0.02374		-0.18432	2P	29.67610	0.00050	
2S	8.06851	0.00087		0.69694				

*VANADIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.80231030E 03 P.E.=-0.16046225E 04
K.E.= 0.80231225E 03 V.T.=-0.19999976E 01

S		1S		2S		P		2P
BASIS/ORB	E	-223.51076		-42.17870	BASIS/ORB	E	-38.90653	
1S	22.63780	0.96529		-0.32138	2P	9.58212	0.68286	
1S	36.73790	0.01913		0.00487	2P	15.91130	0.09850	
2S	9.97676	-0.00151		0.51966	2P	8.31641	0.23553	
2S	18.42310	0.02257		-0.19548	2P	33.06190	0.00033	
2S	9.01949	0.00137		0.67046				

*CHROMIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.87883995E 03 P.E.=-0.17576808E 04
K.E.= 0.87884086E 03 V.T.=-0.19999989E 01

S		1S		2S	P		2P
BASIS/ORB E		-245.04557		-46.91370	BASIS/ORB E		-43.47083
1S	23.64000	0.96638		-0.32321	2P	10.10770	0.67920
1S	38.29890	0.01845		0.00492	2P	16.74860	0.09346
2S	10.43230	-0.00187		0.54046	2P	8.80047	0.24345
2S	19.22610	0.02202		-0.20062	2P	34.75470	0.00026
2S	9.49497	0.00164		0.65454			

*IRON 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.10424007E 04 P.E.=-0.20848033E 04
K.E.= 0.10424025E 04 V.T.=-0.19999982E 01

S		1S		2S	P		2P
BASIS/ORB E		-291.11647		-57.13422	BASIS/ORB E		-53.35003
1S	25.64430	0.96835		-0.32645	2P	11.15880	0.67162
1S	41.42070	0.01723		0.00500	2P	18.42320	0.08467
2S	11.34330	-0.00260		0.58676	2P	9.76859	0.25842
2S	20.83200	0.02101		-0.21009	2P	38.14040	0.00016
2S	10.44590	0.00221		0.61727			

*NICKEL 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.12199630E 04 P.E.=-0.24399284E 04
K.E.= 0.12199654E 04 V.T.=-0.19999979E 01

S		1S		2S	P		2P
BASIS/ORB E		-341.18884		-68.35530	BASIS/ORB E		-64.22987
1S	27.64870	0.97011		-0.32922	2P	12.21000	0.66392
1S	44.54260	0.01614		0.00507	2P	20.09780	0.07727
2S	12.25430	-0.00339		0.63948	2P	10.73670	0.27236
2S	22.43800	0.02011		-0.21862	2P	41.52610	0.00010
2S	11.39690	0.00287		0.57271			

*ZINC 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.14115264E 04 P.E.=-0.28230672E 04
K.E.= 0.14115407E 04 V.T.=-0.19999898E 01

S		1S		2S	P		2P
BASIS/ORB E		-395.26219		-80.57679	BASIS/ORB E		-76.11017
1S	29.65310	0.97168		-0.33163	2P	13.26110	0.65633
1S	47.66440	0.01518		0.00514	2P	21.77240	0.07096
2S	13.16530	-0.00420		0.69908	2P	11.70480	0.28526
2S	24.04400	0.01929		-0.22631	2P	44.91190	0.00006
2S	12.34790	0.00357		0.52053			

*MANGANESE 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.95887011E 03 P.E.=-0.19177411E 04
K.E.= 0.95887114E 03 V.T.=-0.19999988E 01

S		1S		2S	P		2P
BASIS/ORB E		-267.58081		-51.89888	BASIS/ORB E		-48.28534
1S	24.64220	0.96739		-0.32489	2P	10.63330	0.67542
1S	39.85980	0.01782		0.00496	2P	17.58590	0.08887
2S	10.88780	-0.00224		0.56281	2P	9.28453	0.25109
2S	20.02910	0.02151		-0.20549	2P	36.44760	0.00021
2S	9.97046	0.00193		0.63682			

*COBALT 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.11294316E 04 P.E.=-0.22588650E 04
K.E.= 0.11294334E 04 V.T.=-0.19999983E 01

S		1S		2S	P		2P
BASIS/ORB E		-315.65250		-62.61971	BASIS/ORB E		-58.66488
1S	26.64650	0.96926		-0.32789	2P	11.68440	0.66775
1S	42.98160	0.01667		0.00504	2P	19.26050	0.08082
2S	11.79880	-0.00299		0.61228	2P	10.25270	0.26553
2S	21.63500	0.02055		-0.21446	2P	39.83330	0.00013
2S	10.92140	0.00253		0.59593			

*COPPER 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.13139945E 04 P.E.=-0.26279849E 04
K.E.= 0.13139903E 04 V.T.=-0.20000032E 01

S		1S		2S	P		2P
BASIS/ORB E		-367.72556		-74.34103	BASIS/ORB E		-70.04499
1S	28.65090	0.97092		-0.33047	2P	12.73560	0.66007
1S	46.10350	0.01564		0.00511	2P	20.93510	0.07400
2S	12.70980	-0.00379		0.66838	2P	11.22080	0.27896
2S	23.24100	0.01969		-0.22256	2P	43.21900	0.00007
2S	11.87240	0.00321		0.54761			

*GALLIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.15125585E 04 P.E.=-0.30251209E 04
K.E.= 0.15125623E 04 V.T.=-0.19999974E 01

S		1S		2S	P		2P
BASIS/ORB E		-423.79945		-87.06271	BASIS/ORB E		-82.42553
1S	30.65530	0.97241		-0.33273	2P	13.78670	0.65258
1S	49.22540	0.01473		0.00518	2P	22.60970	0.06815
2S	13.62080	-0.00463		0.73160	2P	12.18890	0.29138
2S	24.84700	0.01891		-0.22987	2P	46.60470	0.00004
2S	12.82340	0.00395		0.49145			

TABLE 15- 04

*GERMANIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.16170909E 04 P.E.=-0.32341965E 04
K.E.= 0.16171055E 04 V.T.=-0.19999909E 01

S	1S	2S	P	2P
BASIS/ORB E	-453.33660	-93.79864	BASIS/ORB E	-88.99090
1S 31.65750	0.97310	-0.33375	2P 14.31230	0.64887
1S 50.78630	0.01431	0.00521	2P 23.44700	0.06553
2S 14.07640	-0.00508	0.76616	2P 12.67300	0.29729
2S 25.65000	0.01854	-0.23327	2P 48.29760	0.00003
2S 13.29890	0.00436	0.46019		

*SELENIUM 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.18366560E 04 P.E.=-0.36733238E 04
K.E.= 0.18366677E 04 V.T.=-0.19999936E 01

S	1S	2S	P	2P
BASIS/ORB E	-515.41174	-108.02076	BASIS/ORB E	-102.87195
1S 33.66180	0.97437	-0.33561	2P 15.36340	0.64176
1S 53.90810	0.01353	0.00528	2P 25.12160	0.06079
2S 14.98740	-0.00602	0.84203	2P 13.64110	0.30839
2S 27.25590	0.01786	-0.23961	2P 51.68330	0.00001
2S 14.24980	0.00523	0.39048		

*KRYPTON 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.20702221E 04 P.E.=-0.41404475E 04
K.E.= 0.20702253E 04 V.T.=-0.19999983E 01

S	1S	2S	P	2P
BASIS/ORB E	-581.48768	-123.24315	BASIS/ORB E	-117.75331
1S 35.66620	0.97554	-0.33729	2P 16.41460	0.63490
1S 57.03000	0.01282	0.00535	2P 26.79620	0.05662
2S 15.89840	-0.00699	0.92745	2P 14.60920	0.31876
2S 28.86190	0.01723	-0.24538	2P 55.06900	-0.
2S 15.20080	0.00613	0.31069		

*ARSENIC 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.17251235E 04 P.E.=-0.34502614E 04
K.E.= 0.17251378E 04 V.T.=-0.19999915E 01

S	1S	2S	P	2P
BASIS/ORB E	-483.87411	-100.78467	BASIS/ORB E	-95.80639
1S 32.65960	0.97375	-0.33471	2P 14.83790	0.64528
1S 52.34720	0.01391	0.00525	2P 24.28430	0.06308
2S 14.53190	-0.00555	0.80289	2P 13.15700	0.30295
2S 26.45290	0.01819	-0.23650	2P 49.99040	0.00002
2S 13.77430	0.00479	0.42661		

*BROMINE 1S(2)2S(2)2P(4), 8-1S
T.E.=-0.19516890E 04 P.E.=-0.39033838E 04
K.E.= 0.19516949E 04 V.T.=-0.19999970E 01

S	1S	2S	P	2P
BASIS/ORB E	-547.94975	-115.50695	BASIS/ORB E	-110.18762
1S 34.66400	0.97497	-0.33648	2P 15.88900	0.63829
1S 55.46910	0.01317	0.00532	2P 25.95890	0.05864
2S 15.44290	-0.00646	0.88325	2P 14.12510	0.31367
2S 28.05890	0.01753	-0.24254	2P 53.37610	0.
2S 14.72530	0.00563	0.35212		

TABLE 16- 01

*FLUORINE 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.99409213E 02 P.E.=-0.19881368E 03
K.E.= 0.99404471E 02 V.T.=-0.20000476E 01

S		1S		2S		P		2P
BASIS/ORB	E	-26.38322		-1.57250	BASIS/ORB	E	-0.73000	
1S	8.80910	0.90000		-0.21287	2P	2.03010	0.55972	
1S	14.41300	0.04257		-0.00754	2P	3.91060	0.34879	
2S	3.25930	0.00477		0.62729	2P	1.26550	0.17011	
2S	8.01980	0.07200		-0.09169	2P	8.63630	0.01690	
2S	1.99560	-0.00094		0.47298				

*SODIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.15999721E 03 P.E.=-0.31999130E 03
K.E.= 0.15999409E 03 V.T.=-0.20000195E 01

S		1S		2S		P		2P
BASIS/ORB	E	-41.86242		-3.93004	BASIS/ORB	E	-2.74363	
1S	10.81330	0.91882		-0.24512	2P	3.07340	0.60216	
1S	17.72540	0.03336		-0.00160	2P	5.49067	0.28384	
2S	4.18824	0.00429		0.56610	2P	2.24122	0.16405	
2S	9.59010	0.06059		-0.09777	2P	11.67810	0.01014	
2S	2.95889	-0.00103		0.53116				

*ALUMINUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.23564266E 03 P.E.=-0.47128425E 03
K.E.= 0.23564158E 03 V.T.=-0.20000046E 01

S		1S		2S		P		2P
BASIS/ORB	E	-61.39709		-7.32349	BASIS/ORB	E	-5.78569	
1S	12.81750	0.93105		-0.26521	2P	4.11669	0.62449	
1S	21.03770	0.02756		0.00063	2P	7.07075	0.23762	
2S	5.11718	0.00334		0.53585	2P	3.21694	0.17588	
2S	11.16040	0.05308		-0.11065	2P	14.71980	0.00663	
2S	3.92218	-0.00085		0.56976				

*PHOSPHORUS 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.32631607E 03 P.E.=-0.65263215E 03
K.E.= 0.32631607E 03 V.T.=-0.20000000E 01

S		1S		2S		P		2P
BASIS/ORB	E	-84.95729		-11.73070	BASIS/ORB	E	-9.83975	
1S	14.82170	0.93979		-0.27919	2P	5.15999	0.63573	
1S	24.35010	0.02352		0.00171	2P	8.65082	0.20353	
2S	6.04612	0.00221		0.52133	2P	4.19266	0.19173	
2S	12.73070	0.04763		-0.12493	2P	17.76160	0.00463	
2S	4.88547	-0.00046		0.59611				

*NEON 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.12781765E 03 P.E.=-0.25563077E 03
K.E.= 0.12781312E 03 V.T.=-0.20000354E 01

S		1S		2S		P		2P
BASIS/ORB	E	-33.61221		-2.61878	BASIS/ORB	E	-1.60612	
1S	9.81121	0.91057		-0.23117	2P	2.55175	0.58442	
1S	16.06920	0.03736		-0.00377	2P	4.70064	0.31344	
2S	3.72377	0.00462		0.59087	2P	1.75336	0.16267	
2S	8.80495	0.06561		-0.09319	2P	10.15720	0.01293	
2S	2.47724	-0.00102		0.50552				

*MAGNESIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.19594026E 03 P.E.=-0.39187878E 03
K.E.= 0.19593851E 03 V.T.=-0.20000088E 01

S		1S		2S		P		2P
BASIS/ORB	E	-51.12543		-5.49931	BASIS/ORB	E	-4.13758	
1S	11.81540	0.92550		-0.25618	2P	3.59504	0.61510	
1S	19.38160	0.03016		-0.00026	2P	6.28071	0.25887	
2S	4.65271	0.00385		0.54847	2P	2.72908	0.16908	
2S	10.37520	0.05650		-0.10385	2P	13.19890	0.00812	
2S	3.44053	-0.00097		0.55224				

*SILICON 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.27910182E 03 P.E.=-0.55820331E 03
K.E.= 0.27910148E 03 V.T.=-0.20000011E 01

S		1S		2S		P		2P
BASIS/ORB	E	-72.67489		-9.40094	BASIS/ORB	E	-7.68667	
1S	13.81960	0.93575		-0.27276	2P	4.63834	0.63116	
1S	22.69390	0.02538		0.00125	2P	7.86079	0.21936	
2S	5.58165	0.00279		0.52706	2P	3.70480	0.18358	
2S	11.94550	0.05016		-0.11776	2P	16.24070	0.00550	
2S	4.40382	-0.00068		0.58426				

*SULFUR 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.37728424E 03 P.E.=-0.75456908E 03
K.E.= 0.37728484E 03 V.T.=-0.19999983E 01

S		1S		2S		P		2P
BASIS/ORB	E	-98.24323		-14.31214	BASIS/ORB	E	-12.24442	
1S	15.82390	0.94331		-0.28475	2P	5.68164	0.63869	
1S	26.00630	0.02193		0.00206	2P	9.44086	0.18970	
2S	6.51059	0.00161		0.51818	2P	4.68051	0.20007	
2S	13.51580	0.04541		-0.13204	2P	19.28240	0.00394	
2S	5.36711	-0.00020		0.60558				

TABLE 16- 02

*CHLORINE 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.43200554E 03 P.E.=-0.86401156E 03
K.E.= 0.43200602E 03 V.T.=-0.19999988E 01

S	1S	2S	P	2P
BASIS/ORB E	-112.53192	-17.14486	BASIS/ORB E	-14.90030
1S 16.82600	0.94642	-0.28961	2P 6.20329	0.64036
1S 27.66250	0.02054	0.00234	2P 10.23090	0.17752
2S 6.97506	0.00099	0.51721	2P 5.16837	0.20844
2S 14.30100	0.04343	-0.13898	2P 20.80330	0.00339
2S 5.84876	0.00011	0.61289		

*POTASSIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.55270518E 03 P.E.=-0.11054114E 04
K.E.= 0.55270618E 03 V.T.=-0.19999982E 01

S	1S	2S	P	2P
BASIS/ORB E	-144.11562	-23.56307	BASIS/ORB E	-20.96480
1S 18.83020	0.95165	-0.29775	2P 7.24658	0.64090
1S 30.97490	0.01822	0.00279	2P 11.81100	0.15709
2S 7.90400	-0.00023	0.52088	2P 6.14409	0.22493
2S 15.87130	0.04005	-0.15223	2P 23.84510	0.00258
2S 6.81204	0.00079	0.62167		

*SCANDIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.68841161E 03 P.E.=-0.13768253E 04
K.E.= 0.68841366E 03 V.T.=-0.19999970E 01

S	1S	2S	P	2P
BASIS/ORB E	-179.70538	-30.98386	BASIS/ORB E	-28.03191
1S 20.83440	0.95590	-0.30432	2P 8.28988	0.63891
1S 34.28720	0.01638	0.00313	2P 13.39100	0.14066
2S 8.83294	-0.00147	0.53082	2P 7.11981	0.24076
2S 17.44160	0.03725	-0.16453	2P 26.88680	0.00202
2S 7.77533	0.00158	0.62357		

*VANADIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.83912293E 03 P.E.=-0.16782504E 04
K.E.= 0.83912750E 03 V.T.=-0.19999945E 01

S	1S	2S	P	2P
BASIS/ORB E	-219.29941	-39.40639	BASIS/ORB E	-36.10083
1S 22.83860	0.95943	-0.30976	2P 9.33317	0.63535
1S 37.59960	0.01486	0.00342	2P 14.97110	0.12718
2S 9.76189	-0.00270	0.54621	2P 8.09553	0.25575
2S 19.01190	0.03489	-0.17585	2P 29.92860	0.00163
2S 8.73862	0.00244	0.61927		

*ARGON 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.49047934E 03 P.E.=-0.98095968E 03
K.E.= 0.49048033E 03 V.T.=-0.19999979E 01

S	1S	2S	P	2P
BASIS/ORB E	-127.82285	-20.22857	BASIS/ORB E	-17.80715
1S 17.82810	0.94918	-0.29391	2P 6.72493	0.64102
1S 29.31870	0.01931	0.00258	2P 11.02090	0.16672
2S 7.43953	0.00038	0.51818	2P 5.65623	0.21675
2S 15.08610	0.04165	-0.14572	2P 22.32420	0.00294
2S 6.33040	0.00043	0.61820		

*CALCIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.61868268E 03 P.E.=-0.12373667E 04
K.E.= 0.61868411E 03 V.T.=-0.19999976E 01

S	1S	2S	P	2P
BASIS/ORB E	-161.40988	-27.14821	BASIS/ORB E	-24.37309
1S 19.83230	0.95388	-0.30120	2P 7.76823	0.64015
1S 32.63100	0.01725	0.00297	2P 12.60100	0.14845
2S 8.36847	-0.00085	0.52514	2P 6.63195	0.23295
2S 16.65640	0.03859	-0.15850	2P 25.36600	0.00228
2S 7.29369	0.00117	0.62343		

*TITANIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.76189175E 03 P.E.=-0.15237854E 04
K.E.= 0.76189379E 03 V.T.=-0.19999973E 01

S	1S	2S	P	2P
BASIS/ORB E	-199.00197	-35.06995	BASIS/ORB E	-31.94119
1S 21.83650	0.95775	-0.30716	2P 8.81153	0.63727
1S 35.94340	0.01558	0.00329	2P 14.18110	0.13361
2S 9.29741	-0.00208	0.53787	2P 7.60767	0.24838
2S 18.22670	0.03602	-0.17031	2P 28.40770	0.00181
2S 8.25698	0.00199	0.62216		

*CHROMIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.92010497E 03 P.E.=-0.18402115E 04
K.E.= 0.92010650E 03 V.T.=-0.19999982E 01

S	1S	2S	P	2P
BASIS/ORB E	-240.59776	-43.99316	BASIS/ORB E	-40.51084
1S 23.84070	0.96098	-0.31214	2P 9.85482	0.63319
1S 39.25580	0.01420	0.00356	2P 15.76120	0.12131
2S 10.22640	-0.00332	0.55573	2P 8.58339	0.26292
2S 19.79700	0.03384	-0.18116	2P 31.44950	0.00147
2S 9.22027	0.00290	0.61500		

TABLE 16- 03

*MANGANESE 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.10048378E 04 P.E.=-0.20096800E 04
K.E.= 0.10048421E 04 V.T.=-0.19999956E 01

S	1S	2S	P	2P
BASIS/ORB E	-262.89665	-48.83017	BASIS/ORB E	-45.17110
1S 24.84280	0.96242	-0.31434	2P 10.37650	0.63081
1S 40.91200	0.01360	0.00368	2P 16.55120	0.11594
2S 10.69080	-0.00394	0.56647	2P 9.07125	0.26988
2S 20.58220	0.03287	-0.18625	2P 32.97030	0.00134
2S 9.70191	0.00337	0.60930		

*COBALT 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.11855552E 04 P.E.=-0.23711152E 04
K.E.= 0.11855599E 04 V.T.=-0.19999961E 01

S	1S	2S	P	2P
BASIS/ORB E	-310.49625	-59.25486	BASIS/ORB E	-55.24234
1S 26.84700	0.96497	-0.31827	2P 11.41980	0.62574
1S 44.22430	0.01252	0.00391	2P 18.13130	0.10641
2S 11.61980	-0.00520	0.59135	2P 10.04700	0.28308
2S 22.15250	0.03111	-0.19581	2P 36.01210	0.00112
2S 10.66520	0.00437	0.59396		

*COPPER 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.13812748E 04 P.E.=-0.27625551E 04
K.E.= 0.13812803E 04 V.T.=-0.19999959E 01

S	1S	2S	P	2P
BASIS/ORB E	-362.09770	-70.68025	BASIS/ORB E	-66.31436
1S 28.85120	0.96719	-0.32168	2P 12.46310	0.62035
1S 47.53670	0.01160	0.00412	2P 19.71130	0.09826
2S 12.54870	-0.00645	0.62070	2P 11.02270	0.29545
2S 23.72280	0.02955	-0.20459	2P 39.05390	0.00095
2S 11.62850	0.00542	0.57342		

*GALLIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.15919960E 04 P.E.=-0.31839997E 04
K.E.= 0.15920036E 04 V.T.=-0.19999953E 01

S	1S	2S	P	2P
BASIS/ORB E	-417.70055	-83.10616	BASIS/ORB E	-78.38695
1S 30.85550	0.96913	-0.32466	2P 13.50640	0.61487
1S 50.84910	0.01080	0.00431	2P 21.29140	0.09119
2S 13.47760	-0.00778	0.65472	2P 11.99840	0.30700
2S 25.29310	0.02819	-0.21269	2P 42.09560	0.00082
2S 12.59180	0.00658	0.54758		

*IRON 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.10933211E 04 P.E.=-0.21866464E 04
K.E.= 0.10933252E 04 V.T.=-0.19999964E 01

S	1S	2S	P	2P
BASIS/ORB E	-286.19620	-53.91742	BASIS/ORB E	-50.08161
1S 25.84490	0.96374	-0.31638	2P 10.89810	0.62835
1S 42.56810	0.01304	0.00380	2P 17.34120	0.11098
2S 11.15530	-0.00456	0.57832	2P 9.55911	0.27656
2S 21.36730	0.03196	-0.19113	2P 34.49120	0.00122
2S 10.18360	0.00386	0.60231		

*NICKEL 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.12815399E 04 P.E.=-0.25630847E 04
K.E.= 0.12815449E 04 V.T.=-0.19999959E 01

S	1S	2S	P	2P
BASIS/ORB E	-335.79677	-64.84248	BASIS/ORB E	-60.65326
1S 27.84910	0.96612	-0.32003	2P 11.94140	0.62311
1S 45.88050	0.01205	0.00402	2P 18.92130	0.10218
2S 12.08420	-0.00584	0.60555	2P 10.53480	0.28933
2S 22.93760	0.03031	-0.20029	2P 37.53300	0.00103
2S 11.14680	0.00490	0.58426		

*ZINC 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.14847603E 04 P.E.=-0.29695272E 04
K.E.= 0.14847670E 04 V.T.=-0.19999955E 01

S	1S	2S	P	2P
BASIS/ORB E	-389.39895	-76.76814	BASIS/ORB E	-72.22559
1S 29.85340	0.96819	-0.32321	2P 12.98470	0.61767
1S 49.19290	0.01118	0.00422	2P 20.50140	0.09460
2S 13.01320	-0.00712	0.63717	2P 11.51050	0.30127
2S 24.50790	0.02885	-0.20873	2P 40.57470	0.00088
2S 12.11010	0.00600	0.56113		

*GERMANIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.17029822E 04 P.E.=-0.34059737E 04
K.E.= 0.17029914E 04 V.T.=-0.19999945E 01

S	1S	2S	P	2P
BASIS/ORB E	-447.00244	-89.69430	BASIS/ORB E	-84.79845
1S 31.85760	0.97001	-0.32601	2P 14.02800	0.61213
1S 52.50530	0.01043	0.00440	2P 22.08150	0.08800
2S 13.94210	-0.00846	0.67347	2P 12.48630	0.31248
2S 26.07820	0.02756	-0.21650	2P 43.61650	0.00077
2S 13.07340	0.00718	0.53269		

TABLE 16- 04

*ARSENIC 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.18177186E 04 P.E.=-0.36354399E 04
K.E.= 0.18177211E 04 V.T.=-0.19999985E 01

S	1S	2S	P	2P
BASIS/ORB E	-477.30469	-96.53253	BASIS/ORB E	-91.46007
1S 32.85970	0.97084	-0.32729	2P 14.54970	0.60937
1S 54.16140	0.01009	0.00449	2P 22.87150	0.08502
2S 14.40660	-0.00914	0.69332	2P 12.97410	0.31781
2S 26.86340	0.02696	-0.22016	2P 45.13740	0.00072
2S 13.55510	0.00778	0.51655		

*SELENIUM 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.19362054E 04 P.E.=-0.38724250E 04
K.E.= 0.19362196E 04 V.T.=-0.19999927E 01

S	1S	2S	P	2P
BASIS/ORB E	-508.60692	-103.62080	BASIS/ORB E	-98.37172
1S 33.86180	0.97162	-0.32850	2P 15.07130	0.60666
1S 55.81760	0.00977	0.00458	2P 23.66150	0.08221
2S 14.87110	-0.00984	0.71444	2P 13.46200	0.32293
2S 27.64850	0.02639	-0.22367	2P 46.65820	0.00068
2S 14.03670	0.00842	0.49900		

*BROMINE 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.20584422E 04 P.E.=-0.41168949E 04
K.E.= 0.20584525E 04 V.T.=-0.19999950E 01

S	1S	2S	P	2P
BASIS/ORB E	-540.90958	-110.95920	BASIS/ORB E	-105.53352
1S 34.86390	0.97237	-0.32965	2P 15.59300	0.60396
1S 57.47380	0.00946	0.00466	2P 24.45160	0.07957
2S 15.33550	-0.01054	0.73692	2P 13.94980	0.32790
2S 28.43370	0.02585	-0.22706	2P 48.17910	0.00064
2S 14.51840	0.00906	0.47997		

*KRYPTON 1S(2)2S(2)2P(5), 9-2P
T.E.=-0.21844295E 04 P.E.=-0.43688703E 04
K.E.= 0.21844409E 04 V.T.=-0.19999947E 01

S	1S	2S	P	2P
BASIS/ORB E	-574.21239	-118.54764	BASIS/ORB E	-112.94538
1S 35.86600	0.97307	-0.33073	2P 16.11460	0.60129
1S 59.13000	0.00918	0.00474	2P 25.24160	0.07708
2S 15.80000	-0.01127	0.76072	2P 14.43770	0.33271
2S 29.21880	0.02533	-0.23032	2P 49.70000	0.00060
2S 15.00000	0.00974	0.45949		

TABLE 17- 01

*NEON 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.12854698E 03 P.E.=-0.25709435E 03
K.E.= 0.12854736E 03 V.T.=-0.19999968E 01

S		1S		2S		P		2P
BASIS/ORB	E	-32.77241		-1.93033	BASIS/ORB	E	-0.85020	
1S	9.06700	0.94467		-0.16458	2P	2.37170	0.51833	
1S	14.09380	0.08659		-0.05020	2P	4.45450	0.33897	
2S	3.83120	0.00561		0.53134	2P	1.47000	0.22427	
2S	9.75690	-0.03147		-0.10215	2P	9.45500	0.01766	
2S	2.34980	-0.00088		0.56884				

*MAGNESIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.19883051E 03 P.E.=-0.39766469E 03
K.E.= 0.19883417E 03 V.T.=-0.19999815E 01

S		1S		2S		P		2P
BASIS/ORB	E	-49.76769		-4.48226	BASIS/ORB	E	-3.00501	
1S	11.11730	0.93770		-0.23504	2P	3.42003	0.53805	
1S	17.34270	0.07471		-0.01966	2P	6.03074	0.28515	
2S	4.74334	0.00984		0.45628	2P	2.47206	0.23118	
2S	11.25430	-0.01225		-0.08225	2P	12.58860	0.01050	
2S	3.32311	-0.00342		0.63508				

*SILICON 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.28518058E 03 P.E.=-0.57036542E 03
K.E.= 0.28518485E 03 V.T.=-0.19999850E 01

S		1S		2S		P		2P
BASIS/ORB	E	-70.82172		-8.07395	BASIS/ORB	E	-6.19181	
1S	13.16770	0.94107		-0.26302	2P	4.46836	0.54319	
1S	20.59170	0.06255		-0.01027	2P	7.60087	0.24542	
2S	5.65548	0.01255		0.40948	2P	3.47412	0.25340	
2S	12.75160	-0.00336		-0.08761	2P	15.71970	0.00682	
2S	4.29641	-0.00564		0.68548				

*SULFUR 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.38756427E 03 P.E.=-0.77513089E 03
K.E.= 0.38756660E 03 V.T.=-0.19999939E 01

S		1S		2S		P		2P
BASIS/ORB	E	-95.90383		-12.68159	BASIS/ORB	E	-10.39239	
1S	15.21800	0.94566		-0.27924	2P	5.51669	0.54033	
1S	23.84060	0.05273		-0.00585	2P	9.16490	0.21524	
2S	6.56762	0.01423		0.37838	2P	4.47618	0.27901	
2S	14.24900	0.00211		-0.09905	2P	18.84840	0.00472	
2S	5.26972	-0.00745		0.72516				

*SODIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.16167676E 03 P.E.=-0.32335532E 03
K.E.= 0.16167855E 03 V.T.=-0.19999888E 01

S		1S		2S		P		2P
BASIS/ORB	E	-40.75904		-3.07322	BASIS/ORB	E	-1.79629	
1S	10.09220	0.93840		-0.20986	2P	2.89586	0.53074	
1S	15.71830	0.08126		-0.02974	2P	5.24339	0.30993	
2S	4.28727	0.00797		0.48879	2P	1.97103	0.22404	
2S	10.50560	-0.01956		-0.08616	2P	11.02210	0.01344	
2S	2.83645	-0.00218		0.60460				

*ALUMINUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.24000001E 03 P.E.=-0.48000447E 03
K.E.= 0.24000446E 03 V.T.=-0.19999815E 01

S		1S		2S		P		2P
BASIS/ORB	E	-59.79002		-6.15029	BASIS/ORB	E	-4.47104	
1S	12.14250	0.93901		-0.25134	2P	3.94420	0.54190	
1S	18.96720	0.06835		-0.01392	2P	6.81657	0.26386	
2S	5.19941	0.01135		0.43043	2P	2.97309	0.24152	
2S	12.00300	-0.00717		-0.08363	2P	14.15450	0.00838	
2S	3.80976	-0.00458		0.66181				

*PHOSPHORUS 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.33436932E 03 P.E.=-0.66874216E 03
K.E.= 0.33437285E 03 V.T.=-0.19999894E 01

S		1S		2S		P		2P
BASIS/ORB	E	-82.86021		-10.25142	BASIS/ORB	E	-8.16589	
1S	14.19280	0.94336		-0.27200	2P	4.99253	0.54252	
1S	22.21610	0.05736		-0.00773	2P	8.38365	0.22935	
2S	6.11155	0.01350		0.39235	2P	3.97515	0.26603	
2S	13.50030	-0.00036		-0.09296	2P	17.28440	0.00563	
2S	4.78307	-0.00660		0.70652				

*CHLORINE 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.44476411E 03 P.E.=-0.88952871E 03
K.E.= 0.44476458E 03 V.T.=-0.19999988E 01

S		1S		2S		P		2P
BASIS/ORB	E	-109.95145		-15.36376	BASIS/ORB	E	-12.87072	
1S	16.24320	0.94787		-0.28531	2P	6.04086	0.53697	
1S	25.46510	0.04861		-0.00435	2P	9.94462	0.20278	
2S	7.02369	0.01476		0.36708	2P	4.97721	0.29209	
2S	14.99770	0.00421		-0.10551	2P	20.41180	0.00400	
2S	5.75638	-0.00819		0.74162				

TABLE 17- 02

*ARGON 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.50596783E 03 P.E.=-0.10119317E 04
K.E.= 0.50596388E 03 V.T.=-0.20000077E 01

S		1S		2S	P		2P
BASIS/ORB E	-125.00232	-18.29747	BASIS/ORB E	-15.60049			
1S	17.26830	0.94996	-0.29053	2P	6.56502	0.53269	
1S	27.08950	0.04493	-0.00312	2P	10.72280	0.19170	
2S	7.47976	0.01513	0.35811	2P	5.47824	0.30514	
2S	15.74640	0.00602	-0.11212	2P	21.97460	0.00343	
2S	6.24303	-0.00882	0.75606				

*CALCIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.64038415E 03 P.E.=-0.12807658E 04
K.E.= 0.64038161E 03 V.T.=-0.20000038E 01

S		1S		2S	P		2P
BASIS/ORB E	-158.11103	-24.91814	BASIS/ORB E	-21.81318			
1S	19.31870	0.95371	-0.29914	2P	7.61335	0.52213	
1S	30.33850	0.03867	-0.00114	2P	12.27460	0.17290	
2S	8.39189	0.01540	0.34621	2P	6.48031	0.33079	
2S	17.24370	0.00905	-0.12539	2P	25.09840	0.00260	
2S	7.21634	-0.00972	0.77930				

*TITANIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.79080921E 03 P.E.=-0.15816153E 04
K.E.= 0.79080611E 03 V.T.=-0.20000038E 01

S		1S		2S	P		2P
BASIS/ORB E	-195.22699	-32.54197	BASIS/ORB E	-29.02899			
1S	21.36900	0.95693	-0.30608	2P	8.66168	0.50983	
1S	33.58740	0.03356	0.00044	2P	13.82030	0.15758	
2S	9.30403	0.01512	0.34133	2P	7.48237	0.35555	
2S	18.74110	0.01151	-0.13830	2P	28.21970	0.00203	
2S	8.18965	-0.01016	0.79562				

*CHROMIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.95724056E 03 P.E.=-0.19144694E 04
K.E.= 0.95722881E 03 V.T.=-0.20000122E 01

S		1S		2S	P		2P
BASIS/ORB E	-236.34832	-41.16798	BASIS/ORB E	-37.24703			
1S	23.41930	0.95971	-0.31187	2P	9.71001	0.49652	
1S	36.83640	0.02932	0.00178	2P	15.35990	0.14488	
2S	10.21620	0.01434	0.34274	2P	8.48443	0.37927	
2S	20.23850	0.01359	-0.15062	2P	31.33850	0.00162	
2S	9.16295	-0.01014	0.80541				

*POTASSIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.57117468E 03 P.E.=-0.11423466E 04
K.E.= 0.57117199E 03 V.T.=-0.20000046E 01

S		1S		2S	P		2P
BASIS/ORB E	-141.05562	-21.48233	BASIS/ORB E	-18.58138			
1S	18.29350	0.95190	-0.29509	2P	7.08919	0.52769	
1S	28.71400	0.04164	-0.00207	2P	11.49950	0.18179	
2S	7.93582	0.01534	0.35122	2P	5.97928	0.31806	
2S	16.49510	0.00762	-0.11878	2P	23.53680	0.00297	
2S	6.72968	-0.00933	0.76858				

*SCANDIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.71359579E 03 P.E.=-0.14271890E 04
K.E.= 0.71359319E 03 V.T.=-0.20000035E 01

S		1S		2S	P		2P
BASIS/ORB E	-176.16826	-28.60473	BASIS/ORB E	-25.29576			
1S	20.34380	0.95538	-0.30278	2P	8.13752	0.51614	
1S	31.96300	0.03599	-0.00031	2P	13.04820	0.16486	
2S	8.84796	0.01532	0.34295	2P	6.98134	0.34329	
2S	17.99240	0.01034	-0.13191	2P	26.65930	0.00228	
2S	7.70299	-0.01000	0.78830				

*VANADIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.87202421E 03 P.E.=-0.17440446E 04
K.E.= 0.87202042E 03 V.T.=-0.20000043E 01

S		1S		2S	P		2P
BASIS/ORB E	-215.28704	-36.72974	BASIS/ORB E	-33.01276			
1S	22.39420	0.95837	-0.30910	2P	9.18585	0.50326	
1S	35.21190	0.03135	0.00113	2P	14.59090	0.15094	
2S	9.76010	0.01479	0.34129	2P	7.98340	0.36754	
2S	19.48980	0.01260	-0.14454	2P	29.77940	0.00181	
2S	8.67630	-0.01021	0.80131				

*MANGANESE 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.10464580E 04 P.E.=-0.20929044E 04
K.E.= 0.10464463E 04 V.T.=-0.20000111E 01

S		1S		2S	P		2P
BASIS/ORB E	-258.41024	-45.85653	BASIS/ORB E	-41.73162			
1S	24.44450	0.96094	-0.31444	2P	10.23420	0.48965	
1S	38.46080	0.02746	0.00238	2P	16.12740	0.13932	
2S	10.67220	0.01375	0.34567	2P	8.98546	0.39072	
2S	20.98720	0.01453	-0.15652	2P	32.89700	0.00147	
2S	9.64961	-0.00994	0.80793				

*IRON 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.11396765E 04 P.E.=-0.22793435E 04
K.E.= 0.11396670E 04 V.T.=-0.20000082E 01

S		1S		2S		P		2P
BASIS/ORB E	-281.47307		-50.79542	BASIS/ORB E		-46.46656		
1S	25.46960	0.96210		-0.31681	2P	10.75830	0.48273	
1S	40.08530	0.02575		0.00294	2P	16.89340	0.13421	
2S	11.12830	0.01306		0.35007	2P	9.48649	0.40187	
2S	21.73590	0.01539		-0.16227	2P	34.45490	0.00133	
2S	10.13630	-0.00963		0.80887				

*NICKEL 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.13381159E 04 P.E.=-0.26762231E 04
K.E.= 0.13381071E 04 V.T.=-0.20000065E 01

S		1S		2S		P		2P
BASIS/ORB E	-330.60083		-61.42403	BASIS/ORB E		-56.68733		
1S	27.52000	0.96418		-0.32109	2P	11.80670	0.46872	
1S	43.33420	0.02270		0.00397	2P	18.42080	0.12511	
2S	12.04040	0.01126		0.36347	2P	10.48860	0.42341	
2S	23.23320	0.01698		-0.17326	2P	37.56880	0.00112	
2S	11.10960	-0.00859		0.80578				

*ZINC 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.15525582E 04 P.E.=-0.31051081E 04
K.E.= 0.15525499E 04 V.T.=-0.20000053E 01

S		1S		2S		P		2P
BASIS/ORB E	-383.73084		-73.05350	BASIS/ORB E		-67.90903		
1S	29.57030	0.96600		-0.32483	2P	12.85500	0.45481	
1S	46.58320	0.02008		0.00489	2P	19.94200	0.11729	
2S	12.95260	0.00890		0.38314	2P	11.49060	0.44383	
2S	24.73060	0.01838		-0.18358	2P	40.68030	0.00095	
2S	12.08290	-0.00697		0.79592				

*GERMANIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.17830026E 04 P.E.=-0.35659986E 04
K.E.= 0.17829958E 04 V.T.=-0.20000038E 01

S		1S		2S		P		2P
BASIS/ORB E	-440.86265		-85.68364	BASIS/ORB E		-80.13148		
1S	31.62060	0.96762		-0.32816	2P	13.90330	0.44106	
1S	49.83210	0.01779		0.00573	2P	21.45720	0.11048	
2S	13.86470	0.00595		0.40977	2P	12.49270	0.46325	
2S	26.22800	0.01965		-0.19328	2P	43.78930	0.00083	
2S	13.05620	-0.00473		0.77857				

*COBALT 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.12368958E 04 P.E.=-0.24737839E 04
K.E.= 0.12368880E 04 V.T.=-0.20000062E 01

S		1S		2S		P		2P
BASIS/ORB E	-305.53658		-55.98459	BASIS/ORB E		-51.45181		
1S	26.49480	0.96318		-0.31902	2P	11.28250	0.47576	
1S	41.70980	0.02417		0.00347	2P	17.65780	0.12948	
2S	11.58440	0.01222		0.35605	2P	9.98752	0.41275	
2S	22.48450	0.01621		-0.16785	2P	36.01220	0.00122	
2S	10.62290	-0.00918		0.80812				

*COPPER 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.14433368E 04 P.E.=-0.28866638E 04
K.E.= 0.14433270E 04 V.T.=-0.20000067E 01

S		1S		2S		P		2P
BASIS/ORB E	-356.66560		-67.11368	BASIS/ORB E		-62.17309		
1S	28.54510	0.96513		-0.32302	2P	12.33080	0.46174	
1S	44.95870	0.02134		0.00444	2P	19.18220	0.12106	
2S	12.49650	0.01017		0.37252	2P	10.98960	0.43375	
2S	23.98190	0.01769		-0.17850	2P	39.12490	0.00103	
2S	11.59620	-0.00787		0.80170				

*GALLIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.16657802E 04 P.E.=-0.33315533E 04
K.E.= 0.16657729E 04 V.T.=-0.20000043E 01

S		1S		2S		P		2P
BASIS/ORB E	-411.79653		-79.24349	BASIS/ORB E		-73.89517		
1S	30.59550	0.96683		-0.32655	2P	13.37920	0.44791	
1S	48.20760	0.01889		0.00532	2P	20.70040	0.11377	
2S	13.40870	0.00751		0.39554	2P	11.99160	0.45366	
2S	25.47930	0.01903		-0.18851	2P	42.23510	0.00089	
2S	12.56950	-0.00594		0.78822				

*ARSENIC 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.19042256E 04 P.E.=-0.38084570E 04
K.E.= 0.19042315E 04 V.T.=-0.19999968E 01

S		1S		2S		P		2P
BASIS/ORB E	-470.92891		-92.37386	BASIS/ORB E		-86.61788		
1S	32.64580	0.96835		-0.32969	2P	14.42750	0.43429	
1S	51.45660	0.01675		0.00612	2P	22.21250	0.10741	
2S	14.32080	0.00420		0.42607	2P	12.99370	0.47259	
2S	26.97660	0.02023		-0.19792	2P	45.34290	0.00078	
2S	13.54280	-0.00333		0.76673				

TABLE 17- 04

*SELENIUM 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.20294489E 04 P.E.=-0.40588997E 04
K.E.= 0.20294508E 04 V.T.=-0.19999989E 01

S	1S	2S	P	2P
BASIS/ORB E	-501.99585	-99.31430	BASIS/ORB E	-93.35450
1S 33.67100	0.96904	-0.33113	2P 14.95170	0.42760
1S 53.08110	0.01578	0.00650	2P 22.96630	0.10452
2S 14.77690	0.00222	0.44436	2P 13.49470	0.48169
2S 27.72530	0.02080	-0.20240	2P 46.89590	0.00073
2S 14.02950	-0.00169	0.75277		

BROMINE 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.21586725E 04 P.E.=-0.43173426E 04
K.E.= 0.21586698E 04 V.T.=-0.20000011E 01

S	1S	2S	P	2P
BASIS/ORB E	-534.06302	-106.50480	BASIS/ORB E	-100.34121
1S 34.69610	0.96971	-0.33250	2P 15.47580	0.42098
1S 54.70550	0.01486	0.00686	2P 23.71850	0.10181
2S 15.23290	0.00010	0.46522	2P 13.99580	0.49058
2S 28.47400	0.02133	-0.20675	2P 48.44830	0.00069
2S 14.51610	0.00011	0.73612		

*KRYPTON 1S(2)2S(2)2P(6), 10-1S
T.E.=-0.22918966E 04 P.E.=-0.45837919E 04
K.E.= 0.22918954E 04 V.T.=-0.20000004E 01

S	1S	2S	P	2P
BASIS/ORB E	-567.13035	-113.94541	BASIS/ORB E	-107.57803
1S 35.72130	0.97032	-0.33380	2P 16.00000	0.41446
1S 56.33000	0.01400	0.00720	2P 24.46920	0.09926
2S 15.68900	-0.00235	0.48866	2P 14.49680	0.49923
2S 29.22270	0.02185	-0.21098	2P 50.00000	0.00065
2S 15.00280	0.00223	0.71679		

TABLE 18- 01

*SODIUM K(2)L(8)3S(1) - 2S
T.E.=-0.16185857E 03 P.E.=-0.32371592E 03
K.E.= 0.16185734E 03 V.T.=-0.20000076E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-40.47825	-2.79674	-0.18199	BASIS/ORB E	-1.51788
1S 11.13300	0.89112	-0.21757	0.03220	2P 2.29170	0.55032
1S 18.08560	0.02661	-0.00650	0.00122	2P 4.26610	0.46523
2S 4.04660	0.00437	0.82562	-0.13456	2P 8.00000	0.06248
2S 10.00000	0.10028	-0.10992	0.01817		
3S 1.17940	0.00027	-0.00053	0.34480		
3S 0.72840	-0.00014	0.00076	0.71306		
3S 3.05960	-0.00081	0.30203	-0.05426		

*MAGNESIUM K(2)L(8)3S(1) - 2S
T.E.=-0.19937132E 03 P.E.=-0.39873920E 03
K.E.= 0.19936787E 03 V.T.=-0.20000172E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-49.35711	-4.08593	-0.54121	BASIS/ORB E	-2.60318
1S 12.22050	0.88567	-0.22199	0.05323	2P 2.81711	0.59715
1S 19.30040	0.02721	-0.00775	0.00041	2P 5.11731	0.43150
2S 4.45887	0.00481	0.85073	-0.20537	2P 9.88474	0.03708
2S 11.03480	0.10533	-0.11637	0.02555		
3S 1.48872	0.00047	-0.00209	0.60731		
3S 1.03259	-0.00026	0.00173	0.46843		
3S 3.49183	-0.00119	0.27283	-0.10652		

*ALUMINUM K(2)L(8)3S(1) - 2S
T.E.=-0.24103024E 03 P.E.=-0.48205519E 03
K.E.= 0.24102496E 03 V.T.=-0.20000219E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-59.26576	-5.65299	-1.03089	BASIS/ORB E	-3.96434
1S 13.25040	0.88721	-0.22774	0.06769	2P 3.33230	0.63127
1S 20.53340	0.02756	-0.00873	0.00011	2P 5.90436	0.39914
2S 4.87473	0.00476	0.87929	-0.25831	2P 11.49200	0.02645
2S 11.97720	0.10290	-0.12223	0.03189		
3S 1.80729	0.00059	-0.00575	0.74859		
3S 1.34110	-0.00034	0.00378	0.35058		
3S 3.90253	-0.00135	0.24437	-0.14586		

*SILICON K(2)L(8)3S(1) - 2S
T.E.=-0.28682104E 03 P.E.=-0.57363656E 03
K.E.= 0.28681552E 03 V.T.=-0.20000193E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-70.18973	-7.48304	-1.64133	BASIS/ORB E	-5.58742
1S 14.23530	0.89313	-0.23497	0.07922	2P 3.83912	0.65543
1S 21.78150	0.02766	-0.00906	-0.00012	2P 6.63798	0.37318
2S 5.29562	0.00434	0.90807	-0.30140	2P 12.86870	0.02151
2S 12.84280	0.09592	-0.12711	0.03724		
3S 2.13356	0.00058	-0.01082	0.83922		
3S 1.65319	-0.00034	0.00662	0.29097		
3S 4.29654	-0.00126	0.21842	-0.18101		

TABLE 18- 02

*PHOSPHORUS K(2)L(8)3S(1) - 2S
T.E.=-0.33673695E 03 P.E.=-0.67347038E 03
K.E.= 0.33673342E 03 V.T.=-0.20000105E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-82.12334	-9.57053	-2.36867	BASIS/ORB E	-7.46730
1S 15.18660	0.90120	-0.24340	0.08910	2P 4.33931	0.67260
1S 23.04190	0.02779	-0.00869	-0.00039	2P 7.32804	0.35303
2S 5.72282	0.00372	0.93534	-0.33811	2P 14.05830	0.01918
2S 13.64600	0.08653	-0.13110	0.04189		
3S 2.46607	0.00044	-0.01654	0.90453		
3S 1.96819	-0.00026	0.00980	0.26120		
3S 4.67830	-0.00101	0.19579	-0.21497		

*SULFUR K(2)L(8)3S(1) - 2S
T.E.=-0.39077408E 03 P.E.=-0.78154752E 03
K.E.= 0.39077343E 03 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-95.06392	-11.91300	-3.21099	BASIS/ORB E	-9.60176
1S 16.11470	0.90982	-0.25252	0.09785	2P 4.83430	0.68495
1S 24.31200	0.02818	-0.00779	-0.00071	2P 7.98360	0.33738
2S 6.15730	0.00310	0.96027	-0.37016	2P 15.10000	0.01821
2S 14.40000	0.07622	-0.13451	0.04613		
3S 2.80352	0.00025	-0.02234	0.95557		
3S 2.28552	-0.00013	0.01298	0.24840		
3S 5.05170	-0.00072	0.17672	-0.24897		

*CHLORINE K(2)L(8)3S(1) - 2S
T.E.=-0.44892994E 03 P.E.=-0.89786270E 03
K.E.= 0.44893276E 03 V.T.=-0.19999936E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-109.00975	-14.50898	-4.16714	BASIS/ORB E	-11.98948
1S 17.02930	0.91796	-0.26182	0.10570	2P 5.32597	0.69416
1S 25.58920	0.02891	-0.00653	-0.00106	2P 8.61263	0.32486
2S 6.59997	0.00258	0.98248	-0.39845	2P 16.02940	0.01801
2S 15.11640	0.06604	-0.13771	0.05017		
3S 3.14469	0.00006	-0.02795	0.99820		
3S 2.60453	-0.00002	0.01600	0.24562		
3S 5.42065	-0.00048	0.16126	-0.28355		

*ARGON K(2)L(8)3S(1) - 2S
T.E.=-0.51120280E 03 P.E.=-0.10224119E 04
K.E.= 0.51120908E 03 V.T.=-0.19999877E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-123.95973	-17.35764	-5.23643	BASIS/ORB E	-14.62972
1S 17.93800	0.92511	-0.27088	0.11276	2P 5.81513	0.70127
1S 26.87180	0.02993	-0.00511	-0.00142	2P 9.22259	0.31461
2S 7.05131	0.00225	1.00198	-0.42356	2P 16.87810	0.01823
2S 15.80610	0.05657	-0.14101	0.05418		
3S 3.48857	-0.00002	-0.03334	1.03576		
3S 2.92483	0.00003	0.01884	0.24882		
3S 5.78797	-0.00036	0.14923	-0.31892		

*POTASSIUM K(2)L(8)3S(1) - 2S
T.E.=-0.57759149E 03 P.E.=-0.11551893E 04
K.E.= 0.57759775E 03 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-139.91321	-20.45839	-6.41839	BASIS/ORB E	-17.52196
1S 18.84820	0.93106	-0.27938	0.11911	2P 6.30305	0.70713
1S 28.15780	0.03110	-0.00364	-0.00178	2P 9.81983	0.30583
2S 7.51172	0.00207	1.01887	-0.44585	2P 17.67410	0.01866
2S 16.47810	0.04823	-0.14465	0.05824		
3S 3.83420	0.00001	-0.03860	1.07016		
3S 3.24594	0.00001	0.02156	0.25541		
3S 6.15652	-0.00036	0.14042	-0.35496		

*CALCIUM K(2)L(8)3S(1) - 2S
T.E.=-0.64809509E 03 P.E.=-0.12961957E 04
K.E.= 0.64810062E 03 V.T.=-0.19999915E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-156.86933	-23.81072	-7.71267	BASIS/ORB E	-20.66571
1S 19.76580	0.93583	-0.28715	0.12483	2P 6.79068	0.71234
1S 29.44570	0.03226	-0.00220	-0.00215	2P 10.40990	0.29798
2S 7.98133	0.00200	1.03339	-0.46556	2P 18.44130	0.01916
2S 17.14050	0.04124	-0.14881	0.06241		
3S 4.18079	0.00013	-0.04391	1.10248		
3S 3.56749	-0.00007	0.02428	0.26371		
3S 6.52859	-0.00044	0.13457	-0.39141		

*SCANDIUM K(2)L(8)3S(1) - 2S
T.E.=-0.72271296E 03 P.E.=-0.14454316E 04
K.E.= 0.72271861E 03 V.T.=-0.19999921E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-174.82764	-27.41430	-9.11903	BASIS/ORB E	-24.06069
1S 20.69580	0.93953	-0.29409	0.12996	2P 7.27900	0.71737
1S 30.73400	0.03322	-0.00083	-0.00253	2P 10.99750	0.29059
2S 8.46010	0.00196	1.04579	-0.48290	2P 19.20000	0.01965
2S 17.80000	0.03570	-0.15357	0.06672		
3S 4.52764	0.00029	-0.04939	1.13308		
3S 3.88914	-0.00016	0.02708	0.27272		
3S 6.90620	-0.00053	0.13138	-0.42781		

*TITANIUM K(2)L(8)3S(1) - 2S
T.E.=-0.80144453E 03 P.E.=-0.16028927E 04
K.E.= 0.80144827E 03 V.T.=-0.19999953E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-193.78781	-31.26892	-10.63727	BASIS/ORB E	-27.70668
1S 21.64130	0.94234	-0.30020	0.13455	2P 7.76811	0.72242
1S 32.02210	0.03387	0.00047	-0.00293	2P 11.58660	0.28353
2S 8.94759	0.00184	1.05633	-0.49809	2P 19.96610	0.02003
2S 18.46210	0.03159	-0.15894	0.07115		
3S 4.87428	0.00036	-0.05523	1.16185		
3S 4.21073	-0.00021	0.03009	0.28198		
3S 7.29038	-0.00056	0.13051	-0.46364		

TABLE 18- 04

*VANADIUM K(2)L(8)3S(1) - 2S
T.E.=-0.88428944E 03 P.E.=-0.17685793E 04
K.E.= 0.88428994E 03 V.T.=-0.19999994E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-213.74943	-35.37431	-12.26727	BASIS/ORB E	-31.60344
1S 22.60570	0.94444	-0.30547	0.13867	2P 8.25904	0.72778
1S 33.30870	0.03408	0.00170	-0.00337	2P 12.17990	0.27648
2S 9.44340	0.00157	1.06531	-0.51127	2P 20.75250	0.02026
2S 19.13090	0.02891	-0.16492	0.07567		
3S 5.22022	0.00024	-0.06126	1.18863		
3S 4.53198	-0.00014	0.03322	0.29105		
3S 7.68259	-0.00041	0.13154	-0.49832		

*CHROMIUM K(2)L(8)3S(1) - 2S
T.E.=-0.97124733E 03 P.E.=-0.19424982E 04
K.E.= 0.97125085E 03 V.T.=-0.19999964E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-234.71229	-39.73037	-14.00890	BASIS/ORB E	-35.75085
1S 23.59010	0.94602	-0.31003	0.14237	2P 8.75194	0.73354
1S 34.59330	0.03380	0.00290	-0.00384	2P 12.77980	0.26935
2S 9.94672	0.00106	1.07292	-0.52264	2P 21.56780	0.02032
2S 19.80930	0.02754	-0.17140	0.08025		
3S 5.56520	-0.00017	-0.06759	1.21292		
3S 4.85276	0.00010	0.03658	0.29997		
3S 8.08328	-0.00003	0.13415	-0.53131		

*MANGANESE K(2)L(8)3S(1) - 2S
T.E.=-0.10623179E 04 P.E.=-0.21246427E 04
K.E.= 0.10623249E 04 V.T.=-0.19999933E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-256.67618	-44.33694	-15.86208	BASIS/ORB E	-40.14879
1S 24.59490	0.94724	-0.31394	0.14572	2P 9.24698	0.73972
1S 35.87580	0.03300	0.00408	-0.00437	2P 13.38740	0.26209
2S 10.45660	0.00027	1.07945	-0.53237	2P 22.41670	0.02021
2S 20.49890	0.02735	-0.17828	0.08480		
3S 5.90905	-0.00097	-0.07394	1.23457		
3S 5.17302	0.00056	0.03999	0.30864		
3S 8.49262	0.00065	0.13787	-0.56226		

*IRON K(2)L(8)3S(1) - 2S
T.E.=-0.11575010E 04 P.E.=-0.23150112E 04
K.E.= 0.11575101E 04 V.T.=-0.19999920E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-279.64100	-49.19397	-17.82675	BASIS/ORB E	-44.79720
1S 25.61950	0.94825	-0.31732	0.14877	2P 9.74410	0.74627
1S 37.15600	0.03169	0.00526	-0.00495	2P 14.00310	0.25473
2S 10.97180	-0.00083	1.08513	-0.54069	2P 23.30000	0.01994
2S 21.20000	0.02819	-0.18543	0.08930		
3S 6.25176	-0.00221	-0.08012	1.25301		
3S 5.49276	0.00129	0.04337	0.31741		
3S 8.91030	0.00165	0.14224	-0.59078		

*COBALT K(2)L(8)3S(1) - 2S
T.E.=-0.12567965E 04 P.E.=-0.25136088E 04
K.E.= 0.12568124E 04 V.T.=-0.19999872E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-303.60654	-54.30135	-19.90285	BASIS/ORB E	-49.69595
1S 26.66220	0.94919	-0.32030	0.15160	2P 10.24340	0.75316
1S 38.43400	0.02989	0.00649	-0.00561	2P 14.62640	0.24723
2S 11.49100	-0.00219	1.09017	-0.54776	2P 24.21520	0.01957
2S 21.91160	0.02983	-0.19270	0.09366		
3S 6.59339	-0.00379	-0.08600	1.26839		
3S 5.81197	0.00222	0.04666	0.32622		
3S 9.33584	0.00292	0.14692	-0.61685		

*NICKEL K(2)L(8)3S(1) - 2S
T.E.=-0.13602040E 04 P.E.=-0.27204274E 04
K.E.= 0.13602234E 04 V.T.=-0.19999856E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-328.57276	-59.65906	-22.09033	BASIS/ORB E	-54.84505
1S 27.71970	0.95012	-0.32301	0.15424	2P 10.74430	0.76019
1S 39.71040	0.02772	0.00776	-0.00633	2P 15.25610	0.23975
2S 12.01240	-0.00383	1.09489	-0.55391	2P 25.15530	0.01912
2S 22.63160	0.03208	-0.19996	0.09787		
3S 6.93419	-0.00577	-0.09106	1.28031		
3S 6.13081	0.00339	0.04955	0.33561		
3S 9.76794	0.00446	0.15131	-0.64033		

*COPPER K(2)L(8)3S(1) - 2S
T.E.=-0.14677236E 04 P.E.=-0.29354860E 04
K.E.= 0.14677623E 04 V.T.=-0.19999737E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-354.53945	-65.26703	-24.38917	BASIS/ORB E	-60.24441
1S 28.78820	0.95115	-0.32559	0.15678	2P 11.24650	0.76723
1S 40.98590	0.02526	0.00911	-0.00712	2P 15.89000	0.23234
2S 12.53420	-0.00562	1.09951	-0.55939	2P 26.10980	0.01866
2S 23.35630	0.03466	-0.20706	0.10187		
3S 7.27452	-0.00796	-0.09521	1.28900		
3S 6.44942	0.00469	0.05197	0.34576		
3S 10.20510	0.00614	0.15508	-0.66142		

*ZINC K(2)L(8)3S(1) - 2S
T.E.=-0.15793552E 04 P.E.=-0.31587616E 04
K.E.= 0.15794063E 04 V.T.=-0.19999676E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-381.50686	-71.12531	-26.79934	BASIS/ORB E	-65.89409
1S 29.86250	0.95231	-0.32818	0.15926	2P 11.74940	0.77408
1S 42.26140	0.02265	0.01057	-0.00798	2P 16.52490	0.22515
2S 13.05440	-0.00752	1.10437	-0.56448	2P 27.06430	0.01823
2S 24.08110	0.03734	-0.21389	0.10564		
3S 7.61485	-0.01028	-0.09807	1.29468		
3S 6.76804	0.00609	0.05368	0.35693		
3S 10.64550	0.00792	0.15777	-0.68037		

*GALLIUM K(2)L(8)3S(1) - 2S
T.E.=-0.16950987E 04 P.E.=-0.33902586E 04
K.E.= 0.16951599E 04 V.T.=-0.19999638E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-409.47484	-77.23385	-29.32081	BASIS/ORB E	-71.79405
1S 30.93630	0.95361	-0.33090	0.16172	2P 12.25210	0.78050
1S 43.53820	0.02007	0.01213	-0.00889	2P 17.15710	0.21837
2S 13.57060	-0.00940	1.10983	-0.56958	2P 28.00050	0.01788
2S 24.79980	0.03983	-0.22036	0.10922		
3S 7.95579	-0.01260	-0.09937	1.29748		
3S 7.08695	0.00749	0.05449	0.36956		
3S 11.08660	0.00966	0.15892	-0.69744		

*GERMANIUM K(2)L(8)3S(1) - 2S
T.E.=-0.18149538E 04 P.E.=-0.36299808E 04
K.E.= 0.18150271E 04 V.T.=-0.19999596E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-438.44327	-83.59264	-31.95357	BASIS/ORB E	-77.94426
1S 32.00210	0.95501	-0.33392	0.16424	2P 12.75390	0.78629
1S 44.81760	0.01772	0.01383	-0.00986	2P 17.78160	0.21215
2S 14.08030	-0.01118	1.11625	-0.57500	2P 28.89640	0.01767
2S 25.50510	0.04188	-0.22636	0.11257		
3S 8.29808	-0.01480	-0.09884	1.29800		
3S 7.40649	0.00881	0.05419	0.38380		
3S 11.52560	0.01132	0.15810	-0.71311		

*ARSENIC K(2)L(8)3S(1) - 2S
T.E.=-0.19389208E 04 P.E.=-0.38779191E 04
K.E.= 0.19389983E 04 V.T.=-0.19999599E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-468.41244	-90.20176	-34.69762	BASIS/ORB E	-84.34482
1S 33.05160	0.95647	-0.33735	0.16684	2P 13.25350	0.79115
1S 46.10140	0.01584	0.01566	-0.01085	2P 18.39290	0.20672
2S 14.58070	-0.01270	1.12410	-0.58126	2P 29.72590	0.01763
2S 26.18830	0.04317	-0.23185	0.11579		
3S 8.64259	-0.01668	-0.09608	1.29603		
3S 7.72707	0.00994	0.05252	0.40040		
3S 11.95940	0.01273	0.15478	-0.72755		

*SELENIUM K(2)L(8)3S(1) - 2S
T.E.=-0.20669994E 04 P.E.=-0.41340837E 04
K.E.= 0.20670843E 04 V.T.=-0.19999588E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-499.38185	-97.06112	-37.55294	BASIS/ORB E	-90.99562
1S 34.07510	0.95788	-0.34129	0.16951	2P 13.74970	0.79484
1S 47.39160	0.01470	0.01760	-0.01182	2P 18.98450	0.20230
2S 15.06880	-0.01384	1.13388	-0.58889	2P 30.45940	0.01784
2S 26.83950	0.04345	-0.23683	0.11898		
3S 8.99031	-0.01812	-0.09056	1.29167		
3S 8.04915	0.01078	0.04914	0.41996		
3S 12.38430	0.01381	0.14832	-0.74105		

TABLE 18- 07

*BROMINE K(2)L(8)3S(1) - 2S
T.E.=-0.21991894E 04 P.E.=-0.43984474E 04
K.E.= 0.21992580E 04 V.T.=-0.19999688E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-531.35230	-104.17091	-40.51955	BASIS/ORB E	-97.89689
1S 35.06180	0.95916	-0.34588	0.17236	2P 14.24130	0.79707
1S 48.69030	0.01459	0.01966	-0.01277	2P 19.54910	0.19906
2S 15.54150	-0.01439	1.14606	-0.59823	2P 31.06330	0.01836
2S 27.44760	0.04237	-0.24123	0.12213		
3S 9.34236	-0.01883	-0.08201	1.28638		
3S 8.37327	0.01115	0.04391	0.44216		
3S 12.79610	0.01436	0.13822	-0.75450		

*KRYPTON K(2)L(8)3S(1) - 2S
T.E.=-0.23354913E 04 P.E.=-0.46710185E 04
K.E.= 0.23355269E 04 V.T.=-0.19999847E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-564.32336	-111.53104	-43.59744	BASIS/ORB E	-105.04852
1S 36.00000	0.96016	-0.35117	0.17534	2P 14.72650	0.79750
1S 50.00000	0.01580	0.02175	-0.01364	2P 20.07840	0.19727
2S 15.99530	-0.01410	1.16127	-0.61005	2P 31.50000	0.01930
2S 28.00000	0.03958	-0.24511	0.12544		
3S 9.70000	-0.01851	-0.06936	1.27970		
3S 8.70000	0.01088	0.03622	0.46810		
3S 13.19040	0.01415	0.12345	-0.76798		

*MAGNESIUM K(2)L(8)3S(2) - 1S
T.E.=-0.19961432E 03 P.E.=-0.39922897E 03
K.E.= 0.19961466E 03 V.T.=-0.19999982E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-49.03137	-3.76753	-0.25296	BASIS/ORB E	-2.28206
1S 12.64120	0.84624	-0.20146	-0.03895	2P 2.71890	0.52776
1S 18.90000	0.02558	-0.01336	-0.00248	2P 4.69970	0.46498
2S 4.43760	0.00500	0.85340	0.17746	2P 8.50000	0.07421
2S 11.40000	0.15256	-0.13061	-0.02643		
3S 1.51840	0.00036	-0.00238	-0.43588		
3S 0.90840	-0.00016	0.00114	-0.64919		
3S 3.47700	-0.00122	0.26703	0.07931		

*ALUMINUM K(2)L(8)3S(2) - 1S
T.E.=-0.24167408E 03 P.E.=-0.48335375E 03
K.E.= 0.24167967E 03 V.T.=-0.19999768E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-58.81241	-5.21784	-0.65261	BASIS/ORB E	-3.52298
1S 13.43340	0.87265	-0.21848	-0.05682	2P 3.27352	0.59887
1S 20.19580	0.02625	-0.01158	-0.00145	2P 5.69476	0.42288
2S 4.85950	0.00396	0.88872	0.23601	2P 10.85220	0.03600
2S 12.09170	0.12164	-0.13010	-0.03201		
3S 1.86585	0.00025	-0.01019	-0.53922		
3S 1.23020	-0.00010	0.00443	-0.56481		
3S 3.83412	-0.00083	0.23796	0.12225		

*SILICON K(2)L(8)3S(2) - 1S
T.E.=-0.28799516E 03 P.E.=-0.57599805E 03
K.E.= 0.28800289E 03 V.T.=-0.19999731E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-69.62205	-6.94646	-1.18209	BASIS/ORB E	-5.04070
1S 14.27280	0.89145	-0.23261	0.07078	2P 3.81227	0.64944
1S 21.49170	0.02715	-0.01012	0.00082	2P 6.60352	0.37957
2S 5.29547	0.00315	0.91832	-0.28298	2P 12.86220	0.02182
2S 12.78330	0.09912	-0.13164	0.03706		
3S 2.21012	0.00009	-0.01888	0.60880		
3S 1.55165	-0.00002	0.00815	0.52406		
3S 4.18796	-0.00048	0.21671	-0.16183		

*PHOSPHORUS K(2)L(8)3S(2) - 1S
T.E.=-0.33856263E 03 P.E.=-0.67713744E 03
K.E.= 0.33857481E 03 V.T.=-0.19999640E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-81.44728	-8.93954	-1.83312	BASIS/ORB E	-6.82206
1S 15.15280	0.90478	-0.24452	0.08194	2P 4.33665	0.68354
1S 22.78750	0.02788	-0.00877	0.00046	2P 7.43460	0.34614
2S 5.74335	0.00243	0.94305	-0.32226	2P 14.56480	0.01568
2S 13.47500	0.08301	-0.13471	0.04219		
3S 2.55173	-0.00013	-0.02792	0.66439		
3S 1.87289	0.00009	0.01210	0.50299		
3S 4.54205	-0.00014	0.20161	-0.20006		

*SULFUR K(2)L(8)3S(2) - 1S
T.E.=-0.39336879E 03 P.E.=-0.78675752E 03
K.E.= 0.39338873E 03 V.T.=-0.19999492E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-94.28248	-11.19132	-2.60179	BASIS/ORB E	-8.86160
1S 16.06670	0.91431	-0.25474	0.09112	2P 4.84835	0.70609
1S 24.08330	0.02830	-0.00739	0.00022	2P 8.19733	0.32199
2S 6.20112	0.00172	0.96393	-0.35588	2P 15.99740	0.01288
2S 14.16670	0.07169	-0.13891	0.04753		
3S 2.89119	-0.00043	-0.03689	0.71375		
3S 2.19394	0.00024	0.01610	0.49109		
3S 4.89958	0.00027	0.19102	-0.23774		

*CHLORINE K(2)L(8)3S(2) - 1S
T.E.=-0.45240913E 03 P.E.=-0.90484591E 03
K.E.= 0.45243677E 03 V.T.=-0.19999389E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-108.12502	-13.69908	-3.48602	BASIS/ORB E	-11.15677
1S 17.00760	0.92127	-0.26368	0.09886	2P 5.34930	0.72064
1S 25.37920	0.02834	-0.00596	0.00001	2P 8.90170	0.30503
2S 6.66720	0.00095	0.98182	-0.38509	2P 17.20000	0.01171
2S 14.85830	0.06379	-0.14392	0.05302		
3S 3.22890	-0.00086	-0.04554	0.75945		
3S 2.51525	0.00046	0.02009	0.48397		
3S 5.26260	0.00076	0.18368	-0.27488		

*ARGON K(2)L(8)3S(2) - 1S
T.E.=-0.51568072E 03 P.E.=-0.10313942E 04
K.E.= 0.51571352E 03 V.T.=-0.19999363E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-122.97328	-16.46124	-4.48456	BASIS/ORB E	-13.70610
1S 17.96830	0.92655	-0.27171	0.10565	2P 5.84135	0.72961
1S 26.67500	0.02808	-0.00441	-0.00028	2P 9.55755	0.29342
2S 7.13911	0.00012	0.99748	-0.41057	2P 18.21260	0.01142
2S 15.55000	0.05825	-0.14933	0.05844		
3S 3.56547	-0.00143	-0.05306	0.80304		
3S 2.83551	0.00076	0.02367	0.47878		
3S 5.63504	0.00136	0.17812	-0.31118		

*POTASSIUM K(2)L(8)3S(2) - 1S
T.E.=-0.58318155E 03 P.E.=-0.11663972E 04
K.E.= 0.58321561E 03 V.T.=-0.19999415E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-138.82608	-19.47675	-5.59660	BASIS/ORB E	-16.50862
1S 18.94170	0.93074	-0.27901	0.11171	2P 6.32681	0.73484
1S 27.97080	0.02764	-0.00281	-0.00064	2P 10.17580	0.28552
2S 7.61623	-0.00074	1.01138	-0.43299	2P 19.07800	0.01163
2S 16.24170	0.05419	-0.15498	0.06376		
3S 3.90107	-0.00211	-0.05958	0.84322		
3S 3.15608	0.00111	0.02692	0.47566		
3S 6.01672	0.00203	0.17384	-0.34602		

*CALCIUM K(2)L(8)3S(2) - 1S
T.E.=-0.65491016E 03 P.E.=-0.13098506E 04
K.E.= 0.65494043E 03 V.T.=-0.19999538E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-155.68250	-22.74483	-6.82159	BASIS/ORB E	-19.56361
1S 19.92130	0.93422	-0.28577	0.11727	2P 6.80778	0.73767
1S 29.26670	0.02718	-0.00119	-0.00111	2P 10.76680	0.28009
2S 8.09703	-0.00157	1.02393	-0.45270	2P 19.83760	0.01215
2S 16.93330	0.05099	-0.16063	0.06881		
3S 4.23609	-0.00284	-0.06471	0.87962		
3S 3.47652	0.00150	0.02963	0.47418		
3S 6.40931	0.00270	0.17010	-0.37888		

*SCANDIUM K(2)L(8)3S(2) - 1S
T.E.=-0.73086552E 03 P.E.=-0.14617547E 04
K.E.= 0.73088915E 03 V.T.=-0.19999675E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-173.54174	-26.26488	-8.15912	BASIS/ORB E	-22.87049
1S 20.90050	0.93721	-0.29209	0.12246	2P 7.28643	0.73920
1S 30.56250	0.02687	0.00040	-0.00165	2P 11.34070	0.27609
2S 8.58045	-0.00230	1.03542	-0.47005	2P 20.53230	0.01281
2S 17.62500	0.04813	-0.16612	0.07350		
3S 4.57080	-0.00353	-0.06833	0.91142		
3S 3.79685	0.00188	0.03172	0.47452		
3S 6.81337	0.00331	0.16647	-0.40927		

*TITANIUM K(2)L(8)3S(2) - 1S
T.E.=-0.81104687E 03 P.E.=-0.16221084E 04
K.E.= 0.81106149E 03 V.T.=-0.19999819E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-192.40328	-30.03646	-9.60890	BASIS/ORB E	-26.42885
1S 21.87400	0.93986	-0.29807	0.12740	2P 7.76480	0.74033
1S 31.85830	0.02685	0.00193	-0.00228	2P 11.90710	0.27267
2S 9.06530	-0.00284	1.04608	-0.48523	2P 21.20000	0.01352
2S 18.31670	0.04522	-0.17129	0.07772		
3S 4.90551	-0.00406	-0.07024	0.93828		
3S 4.11650	0.00218	0.03304	0.47656		
3S 7.22970	0.00373	0.16258	-0.43685		

*VANADIUM K(2)L(8)3S(2) - 1S
T.E.=-0.89545353E 03 P.E.=-0.17909127E 04
K.E.= 0.89545921E 03 V.T.=-0.19999935E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-212.26655	-34.05920	-11.17071	BASIS/ORB E	-30.23834
1S 22.83700	0.94223	-0.30370	0.13207	2P 8.24503	0.74187
1S 33.15420	0.02725	0.00331	-0.00291	2P 12.47560	0.26907
2S 9.55189	-0.00310	1.05597	-0.49860	2P 21.87800	0.01415
2S 19.00830	0.04201	-0.17614	0.08153		
3S 5.24016	-0.00432	-0.07115	0.95925		
3S 4.43724	0.00235	0.03394	0.48135		
3S 7.65554	0.00390	0.15872	-0.46168		

*CHROMIUM K(2)L(8)3S(2) - 1S
T.E.=-0.98408505E 03 P.E.=-0.19681685E 04
K.E.= 0.98408339E 03 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-233.13123	-38.33284	-12.84438	BASIS/ORB E	-34.29871
1S 23.78620	0.94434	-0.30905	0.13658	2P 8.72862	0.74436
1S 34.45000	0.02815	0.00452	-0.00357	2P 13.05330	0.26483
2S 10.03880	-0.00302	1.06528	-0.51024	2P 22.59540	0.01461
2S 19.70000	0.03834	-0.18054	0.08480		
3S 5.57513	-0.00420	-0.07071	0.97524		
3S 4.75734	0.00231	0.03417	0.48794		
3S 8.09214	0.00374	0.15452	-0.48377		

*MANGANESE K(2)L(8)3S(2) - 1S
T.E.=-0.10769410E 04 P.E.=-0.21538734E 04
K.E.= 0.10769323E 04 V.T.=-0.20000080E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-254.99706	-42.85718	-14.62976	BASIS/ORB E	-38.60975
1S 24.71980	0.94624	-0.31413	0.14091	2P 9.21704	0.74822
1S 35.74580	0.02954	0.00556	-0.00422	2P 13.64670	0.25955
2S 10.52600	-0.00254	1.07405	-0.52041	2P 23.37800	0.01485
2S 20.39170	0.03413	-0.18451	0.08759		
3S 5.91043	-0.00364	-0.06943	0.98646		
3S 5.07740	0.00203	0.03397	0.49651		
3S 8.53721	0.00320	0.15020	-0.50344		

*IRON K(2)L(8)3S(2) - 1S
T.E.=-0.11740211E 04 P.E.=-0.23480376E 04
K.E.= 0.11740164E 04 V.T.=-0.20000040E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-277.86370	-47.63205	-16.52675	BASIS/ORB E	-43.17131
1S 25.63770	0.94793	-0.31891	0.14505	2P 9.71127	0.75367
1S 37.04170	0.03139	0.00639	-0.00482	2P 14.26030	0.25301
2S 11.01340	-0.00165	1.08239	-0.52933	2P 24.24330	0.01484
2S 21.08330	0.02939	-0.18810	0.08997		
3S 6.24610	-0.00265	-0.06755	0.99370		
3S 5.39743	0.00149	0.03344	0.50674		
3S 8.98868	0.00228	0.14582	-0.52109		

*COBALT K(2)L(8)3S(2) - 1S
T.E.=-0.12753252E 04 P.E.=-0.25506538E 04
K.E.= 0.12753286E 04 V.T.=-0.19999973E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-301.73106	-52.65732	-18.53527	BASIS/ORB E	-47.98327
1S 26.54200	0.94947	-0.32343	0.14898	2P 10.21180	0.76074
1S 38.33750	0.03358	0.00705	-0.00537	2P 14.89640	0.24517
2S 11.50140	-0.00038	1.09029	-0.53724	2P 25.20000	0.01458
2S 21.77500	0.02424	-0.19137	0.09202		
3S 6.58211	-0.00123	-0.06562	0.99799		
3S 5.71775	0.00071	0.03284	0.51825		
3S 9.44360	0.00102	0.14170	-0.53729		

*NICKEL K(2)L(8)3S(2) - 1S
T.E.=-0.13808528E 04 P.E.=-0.27617287E 04
K.E.= 0.13808758E 04 V.T.=-0.19999833E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-326.59891	-57.93289	-20.65525	BASIS/ORB E	-53.04552
1S 27.43750	0.95084	-0.32766	0.15268	2P 10.71840	0.76918
1S 39.63330	0.03593	0.00759	-0.00587	2P 15.55410	0.23619
2S 11.98980	0.00117	1.09788	-0.54437	2P 26.24510	0.01415
2S 22.46670	0.01893	-0.19446	0.09386		
3S 6.91852	0.00047	-0.06362	1.00094		
3S 6.03749	-0.00026	0.03214	0.52995		
3S 9.89995	-0.00048	0.13775	-0.55247		

*COPPER K(2)L(8)3S(2) - 1S
T.E.=-0.14906041E 04 P.E.=-0.29812519E 04
K.E.= 0.14906478E 04 V.T.=-0.19999707E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-352.46735	-63.45874	-22.88665	BASIS/ORB E	-58.35803
1S 28.33180	0.95208	-0.33160	0.15613	2P 11.23020	0.77858
1S 40.92920	0.03820	0.00805	-0.00631	2P 16.23010	0.22639
2S 12.47950	0.00285	1.10522	-0.55103	2P 27.36440	0.01362
2S 23.15830	0.01380	-0.19757	0.09567		
3S 7.25512	0.00231	-0.06205	1.00388		
3S 6.35754	-0.00132	0.03162	0.54136		
3S 10.35300	-0.00208	0.13426	-0.56734		

*ZINC K(2)L(8)3S(2) - 1S
T.E.=-0.16045786E 04 P.E.=-0.32092404E 04
K.E.= 0.16046617E 04 V.T.=-0.19999480E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-379.33603	-69.23478	-25.22942	BASIS/ORB E	-63.92073
1S 29.23580	0.95315	-0.33523	0.15923	2P 11.74540	0.78833
1S 42.22500	0.04012	0.00854	-0.00669	2P 16.91680	0.21631
2S 12.97100	0.00442	1.11238	-0.55767	2P 28.52830	0.01310
2S 23.85000	0.00934	-0.20091	0.09773		
3S 7.59180	0.00406	-0.06116	1.00814		
3S 6.67764	-0.00234	0.03140	0.55176		
3S 10.79890	-0.00357	0.13133	-0.58226		

*GALLIUM K(2)L(8)3S(2) - 1S
T.E.=-0.17227761E 04 P.E.=-0.34456756E 04
K.E.= 0.17228994E 04 V.T.=-0.19999284E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-407.20534	-75.26117	-27.68356	BASIS/ORB E	-69.73375
1S 30.16410	0.95401	-0.33849	0.16195	2P 12.26110	0.79759
1S 43.52080	0.04134	0.00914	-0.00706	2P 17.60270	0.20669
2S 13.46540	0.00552	1.11951	-0.56459	2P 29.69030	0.01267
2S 24.54170	0.00620	-0.20484	0.10029		
3S 7.92838	0.00536	-0.06100	1.01580		
3S 6.99779	-0.00312	0.03150	0.55990		
3S 11.23310	-0.00463	0.12901	-0.59794		

*GERMANIUM K(2)L(8)3S(2) - 1S
T.E.=-0.18451969E 04 P.E.=-0.36905584E 04
K.E.= 0.18453613E 04 V.T.=-0.19999109E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-436.07529	-81.53795	-30.24907	BASIS/ORB E	-75.79718
1S 31.13550	0.95465	-0.34137	0.16423	2P 12.77360	0.80544
1S 44.81670	0.04142	0.01001	-0.00743	2P 18.27140	0.19837
2S 13.96360	0.00574	1.12675	-0.57225	2P 30.78540	0.01241
2S 25.23330	0.00512	-0.20969	0.10368		
3S 8.26463	0.00579	-0.06189	1.02884		
3S 7.31802	-0.00338	0.03210	0.56468		
3S 11.65030	-0.00490	0.12745	-0.61502		

*ARSENIC K(2)L(8)3S(2) - 1S
T.E.=-0.19718409E 04 P.E.=-0.39438607E 04
K.E.= 0.19720197E 04 V.T.=-0.19999093E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-465.94658	-88.06547	-32.92600	BASIS/ORB E	-82.11138
1S 32.17340	0.95514	-0.34386	0.16600	2P 13.27750	0.81070
1S 46.11250	0.03983	0.01133	-0.00787	2P 18.90140	0.19249
2S 14.46700	0.00457	1.13431	-0.58115	2P 31.72720	0.01240
2S 25.92500	0.00697	-0.21590	0.10828		
3S 8.60027	0.00474	-0.06391	1.04951		
3S 7.63835	-0.00278	0.03320	0.56486		
3S 12.04470	-0.00391	0.12671	-0.63428		

*SELENIUM K(2)L(8)3S(2) - 1S
T.E.=-0.21027078E 04 P.E.=-0.42056017E 04
K.E.= 0.21028939E 04 V.T.=-0.19999115E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-496.81909	-94.84386	-35.71437	BASIS/ORB E	-88.67650
1S 33.30630	0.95572	-0.34600	0.16724	2P 13.76610	0.81194
1S 47.40830	0.03582	0.01335	-0.00847	2P 19.46520	0.19039
2S 14.97710	0.00141	1.14240	-0.59169	2P 32.40580	0.01275
2S 26.61670	0.01268	-0.22394	0.11447		
3S 8.93496	0.00137	-0.06738	1.08105		
3S 7.95878	-0.00081	0.03499	0.55858		
3S 12.41020	-0.00107	0.12694	-0.65692		

*BROMINE K(2)L(8)3S(2) - 1S
T.E.=-0.22377978E 04 P.E.=-0.44757357E 04
K.E.= 0.22379379E 04 V.T.=-0.19999374E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-528.69365	-101.87352	-38.61426	BASIS/ORB E	-95.49298
1S 34.56840	0.95700	-0.34795	0.16797	2P 14.23120	0.80732
1S 48.70420	0.02831	0.01642	-0.00935	2P 19.92850	0.19371
2S 15.49550	-0.00439	1.15138	-0.60442	2P 32.68500	0.01367
2S 27.30830	0.02320	-0.23434	0.12268		
3S 9.26835	-0.00563	-0.07231	1.12694		
3S 8.27933	0.00331	0.03737	0.54406		
3S 12.73990	0.00443	0.12817	-0.68440		

*KRYPTON K(2)L(8)3S(2) - 1S
T.E.=-0.23771106E 04 P.E.=-0.47542465E 04
K.E.= 0.23771360E 04 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-561.57014	-109.15447	-41.62566	BASIS/ORB E	-102.56080
1S 36.00000	0.96027	-0.35014	0.16835	2P 14.66260	0.79423
1S 50.00000	0.01570	0.02109	-0.01074	2P 20.25020	0.20462
2S 16.02410	-0.01351	1.16153	-0.61967	2P 32.40000	0.01561
2S 28.00000	0.03936	-0.24755	0.13323		
3S 9.60000	-0.01815	-0.07930	1.19307		
3S 8.60000	0.01066	0.04063	0.51813		
3S 13.02650	0.01363	0.13072	-0.71939		

*ALUMINUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.24187630E 03 P.E.=-0.48375092E 03 K.E.= 0.24187461E 03 V.T.=-0.20000070E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.50106	-4.91053	-0.39334	BASIS/ORB E	-3.21819	-0.21003
1S 13.75780	0.85262	-0.21604	0.05082	2P 5.30680	0.65327	-0.11853
1S 21.36000	0.01874	-0.00777	0.00124	2P 10.21000	0.04670	-0.00834
2S 4.58960	0.00522	0.97801	-0.24441	3P 1.45130	0.01015	0.43914
2S 12.40000	0.15284	-0.12730	0.03027	3P 0.83590	-0.00261	0.63805
3S 2.10620	0.00141	-0.03361	0.45105	3P 3.81450	0.38610	-0.07061
3S 1.18120	-0.00036	0.00641	0.72320			
3S 3.21450	-0.00247	0.15141	-0.14751			

*SILICON K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.28857276E 03 P.E.=-0.57713991E 03 K.E.= 0.28856714E 03 V.T.=-0.20000193E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-69.17571	-6.51348	-0.83915	BASIS/ORB E	-4.61056	-0.58614
1S 14.53440	0.87833	-0.23096	0.06244	2P 5.77952	0.67492	-0.16396
1S 22.60520	0.01964	-0.00678	0.00194	2P 11.11820	0.04683	-0.01186
2S 5.04446	0.00423	0.99213	-0.29673	3P 1.78385	0.00591	0.55040
2S 13.07830	0.12242	-0.12722	0.03750	3P 1.16043	-0.00067	0.52252
3S 2.41897	0.00109	-0.03463	0.49539	3P 4.25456	0.35762	-0.09812
3S 1.50832	-0.00030	0.00754	0.69592			
3S 3.60860	-0.00184	0.14204	-0.17505			

*PHOSPHORUS K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.33964456E 03 P.E.=-0.67928474E 03 K.E.= 0.33964019E 03 V.T.=-0.20000128E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-80.87670	-8.39409	-1.41514	BASIS/ORB E	-6.27910	-1.09065
1S 15.35090	0.89719	-0.24408	0.07289	2P 6.24396	0.69513	-0.19953
1S 23.85040	0.02100	-0.00568	0.00227	2P 11.96610	0.04750	-0.01449
2S 5.50139	0.00353	1.00567	-0.33974	3P 2.11640	0.00114	0.61155
2S 13.75650	0.09921	-0.12806	0.04356	3P 1.48495	0.00155	0.46675
3S 2.73175	0.00081	-0.03400	0.53378	3P 4.68479	0.33162	-0.11785
3S 1.83522	-0.00024	0.00827	0.68089			
3S 4.01456	-0.00139	0.13228	-0.20289			

*SULFUR K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.39507673E 03 P.E.=-0.79015096E 03 K.E.= 0.39507423E 03 V.T.=-0.20000062E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-93.59349	-10.54068	-2.11306	BASIS/ORB E	-8.21264	-1.71678
1S 16.20400	0.91086	-0.25554	0.08218	2P 6.70083	0.71400	-0.22906
1S 25.09570	0.02242	-0.00451	0.00236	2P 12.75890	0.04864	-0.01671
2S 5.96084	0.00301	1.01858	-0.37576	3P 2.44896	-0.00365	0.65144
2S 14.43480	0.08183	-0.12989	0.04897	3P 1.80948	0.00378	0.43781
3S 3.04452	0.00059	-0.03235	0.56510	3P 5.10629	0.30751	-0.13348
3S 2.16212	-0.00018	0.00868	0.67439			
3S 4.43135	-0.00105	0.12271	-0.22883			

*CHLORINE K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.45486115E 03 P.E.=-0.90972157E 03 K.E.= 0.45486041E 03 V.T.=-0.20000015E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-107.32074	-12.94748	-2.92897	BASIS/ORB E	-10.40570	-2.46101
1S 17.09060	0.92067	-0.26555	0.09046	2P 7.15083	0.73158	-0.25443
1S 26.34090	0.02366	-0.00326	0.00224	2P 13.50180	0.05020	-0.01871
2S 6.42330	0.00253	1.03078	-0.40635	3P 2.78151	-0.00814	0.68054
2S 15.11300	0.06910	-0.13264	0.05398	3P 2.13400	0.00590	0.42244
3S 3.35730	0.00035	-0.03018	0.59071	3P 5.52016	0.28493	-0.14658
3S 2.48902	-0.00010	0.00885	0.67321			
3S 4.85797	-0.00074	0.11379	-0.25274			

TABLE 20- 02

*ARGON K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.51899277E 03 P.E.=-0.10379861E 04 K.E.= 0.51899344E 03 V.T.=-0.19999986E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-122.05545	-15.61130	-3.86071	BASIS/ORB E	-12.85529	-3.32125
1S 18.00730	0.92768	-0.27432	0.09789	2P 7.59470	0.74789	-0.27668
1S 27.58610	0.02456	-0.00192	0.00196	2P 14.20000	0.05214	-0.02062
2S 6.88920	0.00201	1.04226	-0.43260	3P 3.11406	-0.01220	0.70354
2S 15.79130	0.06003	-0.13625	0.05874	3P 2.45853	0.00784	0.41452
3S 3.67007	0.00003	-0.02787	0.61146	3P 5.92750	0.26365	-0.15797
3S 2.81611	0.00002	0.00886	0.67558			
3S 5.29340	-0.00036	0.10581	-0.27468			

*POTASSIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.58746836E 03 P.E.=-0.11749385E 04 K.E.= 0.58747015E 03 V.T.=-0.19999970E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-137.79572	-18.53017	-4.90695	BASIS/ORB E	-15.55957	-4.29620
1S 18.95110	0.93270	-0.28203	0.10463	2P 8.03310	0.76291	-0.29649
1S 28.83130	0.02504	-0.00051	0.00151	2P 14.85850	0.05446	-0.02249
2S 7.35911	0.00137	1.05297	-0.45521	3P 3.44661	-0.01572	0.72292
2S 16.46960	0.05383	-0.14061	0.06332	3P 2.78306	0.00956	0.41087
3S 3.98284	-0.00045	-0.02568	0.62918	3P 6.32942	0.24353	-0.16817
3S 3.14281	0.00023	0.00878	0.67958			
3S 5.73665	0.00017	0.09902	-0.29517			

*CALCIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.66028563E 03 P.E.=-0.13205743E 04 K.E.= 0.66028862E 03 V.T.=-0.19999955E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-154.54030	-21.70283	-6.06686	BASIS/ORB E	-18.51736	-5.38498
1S 19.91870	0.93635	-0.28890	0.11077	2P 8.46678	0.77667	-0.31430
1S 30.07650	0.02506	0.00099	0.00092	2P 15.48260	0.05712	-0.02437
2S 7.83341	0.00054	1.06292	-0.47480	3P 3.77916	-0.01866	0.74010
2S 17.14780	0.04984	-0.14561	0.06777	3P 3.10758	0.01104	0.40966
3S 4.29562	-0.00115	-0.02382	0.64366	3P 6.72701	0.22448	-0.17752
3S 3.46971	0.00057	0.00871	0.68517			
3S 6.18669	0.00089	0.09353	-0.31427			

*SCANDIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.73744284E 03 P.E.=-0.14748900E 04 K.E.= 0.73744723E 03 V.T.=-0.19999939E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-172.28827	-25.12841	-7.33985	BASIS/ORB E	-21.72785	-6.58700
1S 20.90670	0.93910	-0.29506	0.11641	2P 8.89643	0.78918	-0.33041
1S 31.32170	0.02465	0.00256	0.00021	2P 16.07750	0.06008	-0.02628
2S 8.31261	-0.00050	1.07209	-0.49176	3P 4.11172	-0.02103	0.75589
2S 17.82610	0.04753	-0.15116	0.07213	3P 3.43211	0.01227	0.40984
3S 4.60839	-0.00211	-0.02238	0.65579	3P 7.12137	0.20645	-0.18625
3S 3.79661	0.00107	0.00870	0.69160			
3S 6.64252	0.00183	0.08938	-0.33236			

*TITANIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.81893882E 03 P.E.=-0.16378830E 04 K.E.= 0.81894419E 03 V.T.=-0.19999933E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-191.03905	-28.80631	-8.72552	BASIS/ORB E	-25.19049	-7.90182
1S 21.91210	0.94128	-0.30063	0.12162	2P 9.32277	0.80047	-0.34504
1S 32.56700	0.02383	0.00420	-0.00060	2P 16.64820	0.06334	-0.02823
2S 8.79717	-0.00177	1.08048	-0.50644	3P 4.44427	-0.02284	0.77078
2S 18.50430	0.04648	-0.15717	0.07641	3P 3.75663	0.01324	0.41077
3S 4.92117	-0.00337	-0.02148	0.66601	3P 7.51360	0.18939	-0.19452
3S 4.12351	0.00176	0.00884	0.69856			
3S 7.10312	0.00298	0.08661	-0.34966			

*VANADIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.90477262E 03 P.E.=-0.18095502E 04 K.E.= 0.90477756E 03 V.T.=-0.19999944E 01

S	1S	2S	3S
BASIS/ORB E	-210.79217	-32.73609	-10.22355
1S 22.93160	0.94313	-0.30574	0.12646
1S 33.81220	0.02265	0.00589	-0.00150
2S 9.28760	-0.00323	1.08805	-0.51911
2S 19.18260	0.04634	-0.16354	0.08063
3S 5.23394	-0.00489	-0.02120	0.67467
3S 4.45053	0.00266	0.00920	0.70590
3S 7.56750	0.00429	0.08525	-0.36644

P	2P	3P
BASIS/ORB E	-28.90488	-9.32912
2P 9.74650	0.81059	-0.35837
2P 17.20000	0.06683	-0.03022
3P 4.77682	-0.02410	0.78506
3P 4.08116	0.01397	0.41205
3P 7.90480	0.17328	-0.20243

*CHROMIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.99494344E 03 P.E.=-0.19898976E 04 K.E.= 0.99495425E 03 V.T.=-0.19999891E 01

S	1S	2S	3S
BASIS/ORB E	-231.54701	-36.91732	-11.83371
1S 23.96190	0.94481	-0.31044	0.13098
1S 35.05740	0.02120	0.00760	-0.00246
2S 9.78430	-0.00488	1.09484	-0.53001
2S 19.86090	0.04683	-0.17021	0.08478
3S 5.54671	-0.00668	-0.02157	0.68264
3S 4.77731	0.00376	0.00985	0.71299
3S 8.03462	0.00576	0.08525	-0.38293

P	2P	3P
BASIS/ORB E	-32.87060	-10.86864
2P 10.16830	0.81960	-0.37054
2P 17.73810	0.07051	-0.03224
3P 5.10937	-0.02485	0.79879
3P 4.40569	0.01447	0.41353
3P 8.29606	0.15807	-0.21002

*MANGANESE K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.10894509E 04 P.E.=-0.21789124E 04 K.E.= 0.10894614E 04 V.T.=-0.19999901E 01

S	1S	2S	3S
BASIS/ORB E	-253.30364	-41.34987	-13.55584
1S 24.99980	0.94644	-0.31481	0.13521
1S 36.30260	0.01954	0.00932	-0.00346
2S 10.28780	-0.00664	1.10081	-0.53937
2S 20.53910	0.04769	-0.17711	0.08889
3S 5.85949	-0.00867	-0.02273	0.68972
3S 5.10421	0.00505	0.01089	0.72010
3S 8.50350	0.00729	0.08665	-0.39924

P	2P	3P
BASIS/ORB E	-37.08756	-12.52021
2P 10.58900	0.82758	-0.38165
2P 18.26750	0.07432	-0.03428
3P 5.44193	-0.02513	0.81204
3P 4.73021	0.01475	0.41507
3P 8.68850	0.14377	-0.21736

*IRON K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.11882943E 04 P.E.=-0.23766012E 04 K.E.= 0.11883070E 04 V.T.=-0.19999892E 01

S	1S	2S	3S
BASIS/ORB E	-276.06163	-46.03346	-15.38980
1S 26.04220	0.94805	-0.31888	0.13918
1S 37.54780	0.01778	0.01102	-0.00448
2S 10.79860	-0.00847	1.10596	-0.54732
2S 21.21740	0.04875	-0.18419	0.09294
3S 6.17226	-0.01082	-0.02477	0.69681
3S 5.43111	0.00651	0.01245	0.72665
3S 8.97311	0.00884	0.08943	-0.41564

P	2P	3P
BASIS/ORB E	-41.55548	-14.28367
2P 11.00920	0.83465	-0.39183
2P 18.79350	0.07816	-0.03630
3P 5.77448	-0.02498	0.82468
3P 5.05474	0.01481	0.41668
3P 9.08322	0.13033	-0.22441

*COBALT K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.12914733E 04 P.E.=-0.25829662E 04 K.E.= 0.12914929E 04 V.T.=-0.19999848E 01

S	1S	2S	3S
BASIS/ORB E	-299.82079	-50.96795	-17.33549
1S 27.08580	0.94966	-0.32268	0.14290
1S 38.79310	0.01602	0.01264	-0.00549
2S 11.31710	-0.01030	1.11033	-0.55409
2S 21.89560	0.04984	-0.19141	0.09697
3S 6.48504	-0.01309	-0.02775	0.70393
3S 5.75800	0.00811	0.01458	0.73267
3S 9.44245	0.01034	0.09354	-0.43212

P	2P	3P
BASIS/ORB E	-46.27424	-16.15892
2P 11.42960	0.84097	-0.40118
2P 19.32120	0.08196	-0.03827
3P 6.10703	-0.02434	0.83650
3P 5.37926	0.01462	0.41849
3P 9.48130	0.11766	-0.23112

*NICKEL K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.13989878E 04 P.E.=-0.27979881E 04 K.E.= 0.13990001E 04 V.T.=-0.19999910E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-324.58112	-56.15321	-19.39280	BASIS/ORB E	-51.24372	-18.14584
1S 28.12740	0.95128	-0.32624	0.14638	2P 11.85090	0.84668	-0.40979
1S 40.03830	0.01434	0.01418	-0.00647	2P 19.85580	0.08560	-0.04016
2S 11.84380	-0.01203	1.11391	-0.55982	3P 6.43958	-0.02326	0.84737
2S 22.57390	0.05079	-0.19871	0.10098	3P 5.70379	0.01418	0.42056
3S 6.79781	-0.01535	-0.03193	0.71179	3P 9.88385	0.10574	-0.23746
3S 6.08490	0.00977	0.01752	0.73769			
3S 9.91050	0.01171	0.09903	-0.44889			

*COPPER K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.15108374E 04 P.E.=-0.30216920E 04 K.E.= 0.15108547E 04 V.T.=-0.19999885E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-350.34236	-61.58916	-21.56167	BASIS/ORB E	-56.46384	-20.24438
1S 29.16370	0.95286	-0.32954	0.14964	2P 12.27390	0.85197	-0.41777
1S 41.28350	0.01287	0.01557	-0.00738	2P 20.40240	0.08894	-0.04191
2S 12.37920	-0.01361	1.11674	-0.56462	3P 6.77213	-0.02165	0.85698
2S 23.25220	0.05149	-0.20609	0.10498	3P 6.02832	0.01343	0.42309
3S 7.11058	-0.01755	-0.03751	0.72102	3P 10.29200	0.09447	-0.24337
3S 6.41180	0.01146	0.02143	0.74129			
3S 10.37630	0.01290	0.10587	-0.46611			

*ZINC K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.16270219E 04 P.E.=-0.32540634E 04 K.E.= 0.16270414E 04 V.T.=-0.19999880E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-377.10440	-67.27566	-23.84206	BASIS/ORB E	-61.93449	-22.45446
1S 30.19150	0.95437	-0.33258	0.15265	2P 12.69930	0.85704	-0.42520
1S 42.52870	0.01171	0.01678	-0.00821	2P 20.96630	0.09187	-0.04348
2S 12.92370	-0.01494	1.11888	-0.56871	3P 7.10469	-0.01949	0.86509
2S 23.93040	0.05181	-0.21353	0.10901	3P 6.35284	0.01231	0.42623
3S 7.42336	-0.01958	-0.04464	0.73183	3P 10.70680	0.08378	-0.24877
3S 6.73870	0.01309	0.02647	0.74332			
3S 10.83870	0.01383	0.11403	-0.48374			

*GALLIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.17475411E 04 P.E.=-0.34951025E 04 K.E.= 0.17475613E 04 V.T.=-0.19999883E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-404.86725	-73.21268	-26.23389	BASIS/ORB E	-67.65562	-24.77602
1S 31.20760	0.95577	-0.33535	0.15542	2P 13.12770	0.86208	-0.43220
1S 43.77390	0.01094	0.01777	-0.00891	2P 21.55250	0.09426	-0.04480
2S 13.47790	-0.01596	1.12034	-0.57217	3P 7.43724	-0.01673	0.87128
2S 24.60870	0.05165	-0.22101	0.11308	3P 6.67737	0.01082	0.43029
3S 7.73613	-0.02137	-0.05378	0.74524	3P 11.12930	0.07358	-0.25354
3S 7.06560	0.01459	0.03302	0.74300			
3S 11.29690	0.01447	0.12355	-0.50201			

*GERMANIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.18723950E 04 P.E.=-0.37448116E 04 K.E.= 0.18724167E 04 V.T.=-0.19999883E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-433.63073	-79.40014	-28.73714	BASIS/ORB E	-73.62717	-27.20903
1S 32.20880	0.95699	-0.33784	0.15795	2P 13.55990	0.86729	-0.43883
1S 45.01910	0.01068	0.01850	-0.00948	2P 22.16630	0.09597	-0.04583
2S 14.04220	-0.01659	1.12122	-0.57518	3P 7.76979	-0.01329	0.87541
2S 25.28700	0.05092	-0.22854	0.11721	3P 7.00190	0.00884	0.43535
3S 8.04890	-0.02277	-0.06526	0.76182	3P 11.56080	0.06377	-0.25766
3S 7.39250	0.01586	0.04136	0.73991			
3S 11.74970	0.01475	0.13442	-0.52096			

*ARSENIC K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.20015833E 04 P.E.=-0.40031943E 04 K.E.= 0.20016111E 04 V.T.=-0.19999860E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-463.39481	-85.83799	-31.35178	BASIS/ORB E	-79.84909	-29.75344
1S 33.19190	0.95801	-0.34002	0.16020	2P 13.99660	0.87285	-0.44519
1S 46.26440	0.01099	0.01891	-0.00986	2P 22.81270	0.09690	-0.04652
2S 14.61700	-0.01674	1.12165	-0.57790	3P 8.10234	-0.00904	0.87703
2S 25.96520	0.04949	-0.23614	0.12147	3P 7.32642	0.00628	0.44177
3S 8.36168	-0.02363	-0.07940	0.78223	3P 12.00220	0.05428	-0.26101
3S 7.71940	0.01676	0.05180	0.73353			
3S 12.19620	0.01461	0.14654	-0.54061			

*SELENIUM K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.21351060E 04 P.E.=-0.42702331E 04 K.E.= 0.21351270E 04 V.T.=-0.19999900E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-494.15959	-92.52621	-34.07776	BASIS/ORB E	-86.32138	-32.40922
1S 34.15360	0.95878	-0.34188	0.16218	2P 14.43850	0.87888	-0.45132
1S 47.50960	0.01197	0.01899	-0.01004	2P 23.49710	0.09695	-0.04684
2S 15.20290	-0.01638	1.12168	-0.58042	3P 8.43490	-0.00406	0.87601
2S 26.64350	0.04731	-0.24382	0.12587	3P 7.65095	0.00318	0.44965
3S 8.67445	-0.02386	-0.09692	0.80788	3P 12.45460	0.04508	-0.26361
3S 8.04630	0.01722	0.06491	0.72269			
3S 12.63530	0.01406	0.16003	-0.56122			

*BROMINE K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.22729628E 04 P.E.=-0.45459507E 04 K.E.= 0.22729877E 04 V.T.=-0.19999889E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-525.92476	-99.46475	-36.91507	BASIS/ORB E	-93.04396	-35.17635
1S 35.09070	0.95927	-0.34341	0.16387	2P 14.88630	0.88548	-0.45725
1S 48.75480	0.01366	0.01870	-0.01000	2P 24.22440	0.09608	-0.04677
2S 15.80030	-0.01543	1.12142	-0.58298	3P 8.76745	0.00173	0.87207
2S 27.32170	0.04427	-0.25159	0.13050	3P 7.97547	-0.00055	0.45923
3S 8.98723	-0.02328	-0.11853	0.83902	3P 12.91930	0.03612	-0.26539
3S 8.37320	0.01707	0.08133	0.70720			
3S 13.06610	0.01303	0.17488	-0.58268			

*KRYPTON K(2)L(8)3S(2)3P(1) - 2P
T.E.=-0.24151540E 04 P.E.=-0.48303296E 04 K.E.= 0.24151756E 04 V.T.=-0.19999909E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-558.69044	-106.65351	-39.86367	BASIS/ORB E	-100.01677	-38.05478
1S 36.00000	0.95951	-0.34457	0.16526	2P 15.34070	0.89269	-0.46301
1S 50.00000	0.01610	0.01799	-0.00971	2P 25.00000	0.09427	-0.04630
2S 16.40970	-0.01383	1.12105	-0.58560	3P 9.10000	0.00826	0.86503
2S 28.00000	0.04026	-0.25954	0.13535	3P 8.30000	-0.00486	0.47069
3S 9.30000	-0.02161	-0.14475	0.87831	3P 13.39720	0.02743	-0.26639
3S 8.70000	0.01608	0.10150	0.68482			
3S 13.48750	0.01149	0.19104	-0.60542			

*SILICON K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.28885420E 03 P.E.=-0.57770824E 03 K.E.= 0.28885403E 03 V.T.=-0.20000006E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.81249	-6.15651	-0.53980	BASIS/ORB E	-4.25602	-0.29711
1S 14.59520	0.87586	-0.22555	0.05773	2P 5.95030	0.65039	-0.14075
1S 23.09310	0.01752	-0.00856	0.00221	2P 11.40000	0.03928	-0.00817
2S 5.29370	0.00489	0.89524	-0.24984	3P 1.73510	0.01018	0.50383
2S 13.15000	0.12725	-0.13382	0.03659	3P 1.01850	-0.00237	0.57891
3S 2.10050	0.00041	-0.00001	0.57371	3P 4.36430	0.39011	-0.08694
3S 1.30480	-0.00018	0.00061	0.54025			
3S 4.37620	-0.00150	0.22334	-0.11548			

*PHOSPHORUS K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.34034947E 03 P.E.=-0.68069846E 03 K.E.= 0.34034900E 03 V.T.=-0.20000013E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-80.38195	-7.91553	-1.03464	BASIS/ORB E	-5.80308	-0.72039
1S 15.43560	0.89479	-0.23837	0.06858	2P 6.44083	0.66847	-0.17724
1S 24.31610	0.01786	-0.00735	0.00216	2P 12.44590	0.03829	-0.01010
2S 5.72301	0.00352	0.92667	-0.29270	3P 2.06305	0.00872	0.56808
2S 13.81160	0.10554	-0.13546	0.04216	3P 1.34266	-0.00179	0.50991
3S 2.42775	0.00018	-0.00479	0.60098	3P 4.82505	0.36688	-0.10839
3S 1.62277	-0.00007	0.00267	0.52607			
3S 4.72388	-0.00083	0.19899	-0.13745			

*SULFUR K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.39633225E 03 P.E.=-0.79266520E 03 K.E.= 0.39633293E 03 V.T.=-0.19999982E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.97589	-9.95131	-1.65847	BASIS/ORB E	-7.62533	-1.27075
1S 16.30320	0.90869	-0.24980	0.07846	2P 6.91499	0.68726	-0.20758
1S 25.53920	0.01867	-0.00604	0.00192	2P 13.39280	0.03808	-0.01166
2S 6.16191	0.00254	0.95245	-0.32970	3P 2.39100	0.00571	0.60791
2S 14.47640	0.08889	-0.13763	0.04711	3P 1.66682	-0.00050	0.47412
3S 2.75500	-0.00005	-0.00874	0.62952	3P 5.26488	0.34375	-0.12465
3S 1.94073	0.00003	0.00439	0.51758			
3S 5.08382	-0.00034	0.18012	-0.16099			

*CHLORINE K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.45678831E 03 P.E.=-0.91357850E 03 K.E.= 0.45679019E 03 V.T.=-0.19999958E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-106.58496	-12.25336	-2.40401	BASIS/ORB E	-9.71277	-1.94227
1S 17.19560	0.91889	-0.25989	0.08727	2P 7.37432	0.70628	-0.23397
1S 26.76220	0.01963	-0.00471	0.00159	2P 14.24960	0.03856	-0.01308
2S 6.60994	0.00177	0.97395	-0.36170	3P 2.71895	0.00159	0.63621
2S 15.14390	0.07622	-0.14050	0.05179	3P 1.99098	0.00136	0.45467
3S 3.08225	-0.00029	-0.01200	0.65700	3P 5.68593	0.32085	-0.13757
3S 2.25869	0.00015	0.00584	0.51358			
3S 5.45501	0.00007	0.16551	-0.18517			

*ARGON K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.52170946E 03 P.E.=-0.10434222E 04 K.E.= 0.52171288E 03 V.T.=-0.19999933E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-121.20427	-14.81618	-3.26759	BASIS/ORB E	-12.06017	-2.73171
1S 18.11090	0.92637	-0.26877	0.09509	2P 7.82032	0.72512	-0.25758
1S 27.98530	0.02052	-0.00337	0.00120	2P 15.02490	0.03966	-0.01447
2S 7.06663	0.00109	0.99212	-0.38948	3P 3.04690	-0.00317	0.65856
2S 15.81400	0.06672	-0.14409	0.05635	3P 2.31514	0.00360	0.44383
3S 3.40950	-0.00055	-0.01478	0.68315	3P 6.09037	0.29826	-0.14819
3S 2.57666	0.00028	0.00711	0.51248			
3S 5.83644	0.00045	0.15431	-0.20963			

TABLE 21- 02

*POTASSIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.59109046E 03 P.E.=-0.11821861E 04 K.E.= 0.59109562E 03 V.T.=-0.19999912E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-136.83094	-17.63658	-4.24711	BASIS/ORB E	-14.66455	-3.63715
1S 19.04680	0.93189	-0.27662	0.10208	2P 8.25450	0.74344	-0.27909
1S 29.20830	0.02122	-0.00204	0.00075	2P 15.72730	0.04135	-0.01591
2S 7.53150	0.00040	1.00765	-0.41367	3P 3.37485	-0.00814	0.67779
2S 16.48640	0.05972	-0.14834	0.06086	3P 2.63930	0.00600	0.43768
3S 3.73675	-0.00086	-0.01727	0.70804	3P 6.48030	0.27607	-0.15716
3S 2.89462	0.00044	0.00829	0.51313			
3S 6.22710	0.00086	0.14589	-0.23416			

*CALCIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.66492788E 03 P.E.=-0.13298625E 04 K.E.= 0.66493464E 03 V.T.=-0.19999897E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-153.46322	-20.71258	-5.34128	BASIS/ORB E	-17.52405	-4.65733
1S 20.00100	0.93601	-0.28359	0.10836	2P 8.67842	0.76096	-0.29888
1S 30.43130	0.02167	-0.00068	0.00025	2P 16.36590	0.04360	-0.01743
2S 8.00415	-0.00034	1.02105	-0.43481	3P 3.70280	-0.01289	0.69544
2S 17.16070	0.05467	-0.15318	0.06535	3P 2.96346	0.00835	0.43405
3S 4.06400	-0.00126	-0.01964	0.73169	3P 6.85810	0.25433	-0.16498
3S 3.21258	0.00065	0.00946	0.51486			
3S 6.62605	0.00134	0.13980	-0.25856			

*SCANDIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.74321915E 03 P.E.=-0.14864455E 04 K.E.= 0.74322645E 03 V.T.=-0.19999901E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-171.09990	-24.04285	-6.54926	BASIS/ORB E	-20.63744	-5.79142
1S 20.97150	0.93915	-0.28984	0.11405	2P 9.09355	0.77743	-0.31721
1S 31.65440	0.02183	0.00068	-0.00031	2P 16.94920	0.04640	-0.01906
2S 8.48405	-0.00118	1.03274	-0.45334	3P 4.03075	-0.01717	0.71249
2S 17.83680	0.05115	-0.15851	0.06982	3P 3.28761	0.01050	0.43165
3S 4.39125	-0.00177	-0.02197	0.75415	3P 7.22572	0.23314	-0.17200
3S 3.53055	0.00092	0.01065	0.51721			
3S 7.03222	0.00193	0.13563	-0.28268			

*TITANIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.82596251E 03 P.E.=-0.16519356E 04 K.E.= 0.82597309E 03 V.T.=-0.19999871E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-189.73998	-27.62641	-7.87043	BASIS/ORB E	-24.00384	-7.03881
1S 21.95610	0.94161	-0.29548	0.11923	2P 9.50143	0.79268	-0.33422
1S 32.87740	0.02171	0.00207	-0.00092	2P 17.48580	0.04974	-0.02083
2S 8.97077	-0.00213	1.04304	-0.46964	3P 4.35870	-0.02073	0.72942
2S 18.51440	0.04881	-0.16426	0.07428	3P 3.61177	0.01232	0.42973
3S 4.71850	-0.00240	-0.02435	0.77541	3P 7.58541	0.21258	-0.17849
3S 3.84851	0.00127	0.01190	0.51993			
3S 7.44463	0.00262	0.13305	-0.30637			

*VANADIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.91315655E 03 P.E.=-0.18263256E 04 K.E.= 0.91316900E 03 V.T.=-0.19999862E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-209.38295	-31.46266	-9.30439	BASIS/ORB E	-27.62266	-8.39908
1S 22.95250	0.94363	-0.30063	0.12399	2P 9.90357	0.80654	-0.35000
1S 34.10050	0.02133	0.00349	-0.00158	2P 17.98470	0.05357	-0.02273
2S 9.46383	-0.00319	1.05220	-0.48404	3P 4.68665	-0.02346	0.74658
2S 19.19310	0.04737	-0.17032	0.07872	3P 3.93593	0.01373	0.42780
3S 5.04575	-0.00317	-0.02683	0.79556	3P 7.93933	0.19275	-0.18468
3S 4.16647	0.00170	0.01323	0.52281			
3S 7.86229	0.00342	0.13181	-0.32953			

*CHROMIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.10048001E 04 P.E.=-0.20096143E 04 K.E.= 0.10048141E 04 V.T.=-0.19999862E 01

S	1S	2S	3S
BASIS/ORB E	-230.02832	-35.55108	-10.85082
1S 23.95870	0.94536	-0.30538	0.12839
1S 35.32350	0.02072	0.00493	-0.00228
2S 9.96280	-0.00436	1.06047	-0.49682
2S 19.87270	0.04660	-0.17664	0.08313
3S 5.37300	-0.00407	-0.02941	0.81466
3S 4.48444	0.00221	0.01464	0.52575
3S 8.28420	0.00432	0.13164	-0.35211

P	2P	3P
BASIS/ORB E	-31.49345	-9.87190
2P 10.30150	0.81892	-0.36460
2P 18.45450	0.05788	-0.02477
3P 5.01460	-0.02529	0.76411
3P 4.26009	0.01470	0.42560
3P 8.28970	0.17375	-0.19073

*MANGANESE K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.11008926E 04 P.E.=-0.22018006E 04 K.E.= 0.11009079E 04 V.T.=-0.19999860E 01

S	1S	2S	3S
BASIS/ORB E	-251.67562	-39.89127	-12.50946
1S 24.97250	0.94691	-0.30978	0.13247
1S 36.54650	0.01992	0.00638	-0.00301
2S 10.46720	-0.00560	1.06799	-0.50825
2S 20.55300	0.04630	-0.18314	0.08751
3S 5.70025	-0.00508	-0.03213	0.83284
3S 4.80240	0.00280	0.01616	0.52864
3S 8.70933	0.00528	0.13235	-0.37406

P	2P	3P
BASIS/ORB E	-35.61585	-11.45702
2P 10.69670	0.82978	-0.37807
2P 18.90380	0.06260	-0.02694
3P 5.34255	-0.02626	0.78202
3P 4.58425	0.01524	0.42299
3P 8.63855	0.15569	-0.19674

*IRON K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.12014334E 04 P.E.=-0.24028849E 04 K.E.= 0.12014514E 04 V.T.=-0.19999848E 01

S	1S	2S	3S
BASIS/ORB E	-274.32465	-44.48297	-14.28016
1S 25.99160	0.94837	-0.31392	0.13629
1S 37.76960	0.01900	0.00784	-0.00376
2S 10.97650	-0.00689	1.07494	-0.51853
2S 21.23360	0.04631	-0.18975	0.09186
3S 6.02750	-0.00618	-0.03500	0.85031
3S 5.12036	0.00345	0.01778	0.53133
3S 9.13671	0.00628	0.13377	-0.39540

P	2P	3P
BASIS/ORB E	-39.98960	-13.15425
2P 11.09070	0.83912	-0.39046
2P 19.34150	0.06764	-0.02919
3P 5.67050	-0.02640	0.80022
3P 4.90841	0.01537	0.41996
3P 8.98819	0.13865	-0.20278

*COBALT K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.13064215E 04 P.E.=-0.26128629E 04 K.E.= 0.13064413E 04 V.T.=-0.19999850E 01

S	1S	2S	3S
BASIS/ORB E	-297.97515	-49.32592	-16.16275
1S 27.01390	0.94977	-0.31781	0.13985
1S 38.99260	0.01799	0.00928	-0.00452
2S 11.49040	-0.00818	1.08144	-0.52789
2S 21.91430	0.04648	-0.19645	0.09618
3S 6.35475	-0.00733	-0.03804	0.86718
3S 5.43833	0.00414	0.01952	0.53378
3S 9.56533	0.00728	0.13575	-0.41612

P	2P	3P
BASIS/ORB E	-44.61449	-14.96343
2P 11.48510	0.84704	-0.40180
2P 19.77640	0.07287	-0.03150
3P 5.99845	-0.02579	0.81847
3P 5.23257	0.01513	0.41660
3P 9.34073	0.12271	-0.20885

*NICKEL K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.14158571E 04 P.E.=-0.28317354E 04 K.E.= 0.14158782E 04 V.T.=-0.19999850E 01

S	1S	2S	3S
BASIS/ORB E	-322.62690	-54.41995	-18.15712
1S 28.03730	0.95114	-0.32150	0.14320
1S 40.21570	0.01698	0.01071	-0.00527
2S 12.00820	-0.00944	1.08761	-0.53649
2S 22.59490	0.04671	-0.20316	0.10046
3S 6.68200	-0.00850	-0.04124	0.88372
3S 5.75629	0.00486	0.02137	0.53586
3S 9.99420	0.00826	0.13814	-0.43626

P	2P	3P
BASIS/ORB E	-49.49033	-16.88444
2P 11.88140	0.85367	-0.41217
2P 20.21710	0.07814	-0.03381
3P 6.32640	-0.02455	0.83653
3P 5.55673	0.01457	0.41301
3P 9.69835	0.10793	-0.21494

*COPPER K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.15297393E 04 P.E.=-0.30595010E 04 K.E.= 0.15297616E 04 V.T.=-0.19999854E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-348.27983	-59.76491	-20.26319	BASIS/ORB E	-54.61704	-18.91719
1S 29.05950	0.95248	-0.32502	0.14635	2P 12.28090	0.85927	-0.42164
1S 41.43870	0.01602	0.01209	-0.00601	2P 20.67230	0.08326	-0.03603
2S 12.52970	-0.01063	1.09349	-0.54449	3P 6.65435	-0.02268	0.85397
2S 23.27500	0.04689	-0.20984	0.10471	3P 5.88089	0.01367	0.40944
3S 7.00925	-0.00966	-0.04473	0.90025	3P 10.06320	0.09423	-0.22093
3S 6.07426	0.00559	0.02340	0.53738			
3S 10.42230	0.00918	0.14091	-0.45592			

*ZINC K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.16480681E 04 P.E.=-0.32961591E 04 K.E.= 0.16480911E 04 V.T.=-0.19999860E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-374.93366	-65.36065	-22.48086	BASIS/ORB E	-59.99443	-21.06158
1S 30.07830	0.95378	-0.32837	0.14929	2P 12.68540	0.86410	-0.43032
1S 42.66180	0.01518	0.01340	-0.00670	2P 21.15080	0.08798	-0.03808
2S 13.05430	-0.01170	1.09925	-0.55210	3P 6.98230	-0.02022	0.87027
2S 23.95430	0.04692	-0.21650	0.10897	3P 6.20505	0.01243	0.40621
3S 7.33650	-0.01076	-0.04835	0.91679	3P 10.43750	0.08165	-0.22671
3S 6.39222	0.00628	0.02553	0.53841			
3S 10.84860	0.00999	0.14387	-0.47504			

*GALLIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.17708433E 04 P.E.=-0.35417210E 04 K.E.= 0.17708775E 04 V.T.=-0.19999807E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-402.58808	-71.20696	-24.81006	BASIS/ORB E	-65.62233	-23.31753
1S 31.09170	0.95501	-0.33158	0.15207	2P 13.09630	0.86851	-0.43830
1S 43.88480	0.01452	0.01465	-0.00736	2P 21.66140	0.09205	-0.03987
2S 13.58150	-0.01260	1.10485	-0.55934	3P 7.31025	-0.01711	0.88492
2S 24.63270	0.04673	-0.22303	0.11318	3P 6.52920	0.01078	0.40363
3S 7.66375	-0.01175	-0.05236	0.93409	3P 10.82340	0.07006	-0.23214
3S 6.71018	0.00693	0.02790	0.53846			
3S 11.27220	0.01067	0.14706	-0.49392			

*GERMANIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.18980645E 04 P.E.=-0.37961528E 04 K.E.= 0.18980884E 04 V.T.=-0.19999874E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-431.24398	-77.30415	-27.25079	BASIS/ORB E	-71.50106	-25.68506
1S 32.09740	0.95616	-0.33463	0.15463	2P 13.51510	0.87284	-0.44569
1S 45.10780	0.01412	0.01578	-0.00793	2P 22.21270	0.09521	-0.04129
2S 14.11090	-0.01331	1.11046	-0.56650	3P 7.63820	-0.01329	0.89737
2S 25.30980	0.04625	-0.22948	0.11744	3P 6.85336	0.00866	0.40207
3S 7.99100	-0.01261	-0.05656	0.95187	3P 11.22300	0.05938	-0.23706
3S 7.02815	0.00750	0.03039	0.53780			
3S 11.69200	0.01119	0.15029	-0.51236			

*ARSENIC K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.20297318E 04 P.E.=-0.40594953E 04 K.E.= 0.20297635E 04 V.T.=-0.19999844E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-460.90018	-83.65171	-29.80295	BASIS/ORB E	-77.63012	-28.16403
1S 33.09330	0.95721	-0.33756	0.15703	2P 13.94340	0.87742	-0.45259
1S 46.33090	0.01401	0.01680	-0.00844	2P 22.81350	0.09721	-0.04226
2S 14.64200	-0.01375	1.11603	-0.57353	3P 7.96615	-0.00870	0.90700
2S 25.98540	0.04540	-0.23576	0.12168	3P 7.17752	0.00599	0.40195
3S 8.31825	-0.01327	-0.06121	0.97096	3P 11.63850	0.04952	-0.24132
3S 7.34611	0.00796	0.03317	0.53592			
3S 12.10710	0.01150	0.15365	-0.53071			

TABLE 21- 05

*SELENIUM K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.21658448E 04 P.E.=-0.43317143E 04 K.E.= 0.21658693E 04 V.T.=-0.19999886E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-491.55729	-90.24980	-32.46652	BASIS/ORB E	-84.00969	-30.75445
1S 34.07710	0.95811	-0.34035	0.15924	2P 14.38260	0.88254	-0.45907
1S 47.55390	0.01427	0.01768	-0.00883	2P 23.47250	0.09785	-0.04270
2S 15.17450	-0.01390	1.12165	-0.58064	3P 8.29410	-0.00321	0.91323
2S 26.65910	0.04411	-0.24189	0.12596	3P 7.50168	0.00264	0.40368
3S 8.64550	-0.01366	-0.06628	0.99145	3P 12.07220	0.04040	-0.24479
3S 7.66407	0.00825	0.03620	0.53280			
3S 12.51640	0.01158	0.15706	-0.54894			

*BROMINE K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.23064034E 04 P.E.=-0.46128249E 04 K.E.= 0.23064215E 04 V.T.=-0.19999921E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-523.21494	-97.09833	-35.24148	BASIS/ORB E	-90.63964	-33.45626
1S 35.04670	0.95883	-0.34300	0.16128	2P 14.83430	0.88836	-0.46516
1S 48.77700	0.01497	0.01840	-0.00912	2P 24.19840	0.09700	-0.04256
2S 15.70770	-0.01374	1.12736	-0.58788	3P 8.62205	0.00318	0.91550
2S 27.33070	0.04236	-0.24782	0.13027	3P 7.82584	-0.00142	0.40770
3S 8.97275	-0.01379	-0.07176	1.01392	3P 12.52610	0.03200	-0.24741
3S 7.98204	0.00838	0.03948	0.52812			
3S 12.91890	0.01141	0.16044	-0.56726			

*KRYPTON K(2)L(8)3S(2)3P(2) -3P
T.E.=-0.24514077E 04 P.E.=-0.49028383E 04 K.E.= 0.24514306E 04 V.T.=-0.19999906E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-555.87308	-104.19720	-38.12779	BASIS/ORB E	-97.51993	-36.26945
1S 36.00000	0.95937	-0.34553	0.16314	2P 15.30000	0.89490	-0.47088
1S 50.00000	0.01612	0.01895	-0.00929	2P 25.00000	0.09463	-0.04183
2S 16.24120	-0.01320	1.13316	-0.59530	3P 8.95000	0.01030	0.91317
2S 28.00000	0.04006	-0.25352	0.13462	3P 8.15000	-0.00612	0.41456
3S 9.30000	-0.01354	-0.07781	1.03873	3P 13.00240	0.02443	-0.24910
3S 8.30000	0.00827	0.04311	0.52169			
3S 13.31370	0.01095	0.16384	-0.58581			

*SILICON K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.28881486E 03 P.E.=-0.57762302E 03 K.E.= 0.28880814E 03 V.T.=-0.20000231E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.82752	-6.16997	-0.54741	BASIS/ORB E	-4.26924	-0.26082
1S 14.50370	0.88145	-0.22882	0.05773	2P 5.82500	0.67617	-0.14494
1S 23.09000	0.01891	-0.00800	0.00262	2P 11.50000	0.04084	-0.00824
2S 5.23650	0.00515	0.91710	-0.26015	3P 1.72770	0.00508	0.52232
2S 13.10000	0.11909	-0.13043	0.03721	3P 0.96440	0.00004	0.57151
3S 2.05810	0.00053	-0.00233	0.61797	3P 4.25520	0.36345	-0.07909
3S 1.28250	-0.00023	0.00137	0.49479			
3S 4.27620	-0.00173	0.20067	-0.10476			

*PHOSPHORUS K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.34029774E 03 P.E.=-0.68058944E 03 K.E.= 0.34029169E 03 V.T.=-0.20000178E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-80.39421	-7.92606	-1.04001	BASIS/ORB E	-5.81346	-0.67119
1S 15.40140	0.89703	-0.24112	0.06896	2P 6.24382	0.69686	-0.18500
1S 24.31320	0.01825	-0.00633	0.00216	2P 12.11370	0.04598	-0.01162
2S 5.69276	0.00356	0.93463	-0.29741	3P 2.05598	0.00367	0.58432
2S 13.77730	0.10252	-0.13262	0.04211	3P 1.29102	0.00064	0.49967
3S 2.38728	0.00020	-0.00253	0.64023	3P 4.68467	0.33050	-0.09536
3S 1.59848	-0.00009	0.00163	0.48387			
3S 4.71320	-0.00088	0.18799	-0.12985			

*SULFUR K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.39626963E 03 P.E.=-0.79253648E 03 K.E.= 0.39626686E 03 V.T.=-0.20000070E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.98677	-9.96043	-1.66284	BASIS/ORB E	-7.63438	-1.21030
1S 16.30790	0.90899	-0.25174	0.07914	2P 6.66430	0.71658	-0.21783
1S 25.53640	0.01831	-0.00495	0.00159	2P 12.72730	0.05037	-0.01467
2S 6.15156	0.00229	0.95231	-0.32992	3P 2.38427	0.00147	0.62159
2S 14.45460	0.08911	-0.13573	0.04655	3P 1.61764	0.00151	0.46375
3S 2.71646	-0.00014	-0.00381	0.66440	3P 5.10133	0.30085	-0.10736
3S 1.91516	0.00008	0.00229	0.47785			
3S 5.13488	-0.00017	0.17630	-0.15560			

*CHLORINE K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.45671550E 03 P.E.=-0.91343141E 03 K.E.= 0.45671589E 03 V.T.=-0.19999991E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-106.59502	-12.26168	-2.40781	BASIS/ORB E	-9.72108	-1.87138
1S 17.22310	0.91825	-0.26108	0.08812	2P 7.08637	0.73509	-0.24582
1S 26.75950	0.01881	-0.00374	0.00106	2P 13.34090	0.05419	-0.01741
2S 6.61315	0.00128	0.96960	-0.35876	3P 2.71256	-0.00132	0.64741
2S 15.13180	0.07817	-0.13950	0.05088	3P 1.94425	0.00265	0.44522
3S 3.04563	-0.00047	-0.00597	0.68788	3P 5.50662	0.27415	-0.11710
3S 2.23246	0.00024	0.00331	0.47613			
3S 5.54315	0.00040	0.16582	-0.18101			

*ARGON K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.52162687E 03 P.E.=-0.10432569E 04 K.E.= 0.52163007E 03 V.T.=-0.19999938E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-121.21378	-14.82398	-3.27103	BASIS/ORB E	-12.06801	-2.65086
1S 18.14690	0.92546	-0.26939	0.09599	2P 7.50995	0.75226	-0.27028
1S 27.98270	0.01954	-0.00261	0.00058	2P 13.95460	0.05759	-0.01985
2S 7.07776	0.00050	0.98617	-0.38478	3P 3.04084	-0.00450	0.66725
2S 15.80910	0.06922	-0.14374	0.05526	3P 2.27087	0.00402	0.43585
3S 3.37481	-0.00078	-0.00881	0.71082	3P 5.90202	0.25009	-0.12557
3S 2.55034	0.00040	0.00463	0.47706			
3S 5.93993	0.00086	0.15667	-0.20597			

*POTASSIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.59099837E 03 P.E.=-0.11820023E 04 K.E.= 0.59100394E 03 V.T.=-0.19999904E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-136.84011	-17.64402	-4.25031	BASIS/ORB E	-14.67205	-3.54663
1S 19.07900	0.93113	-0.27687	0.10291	2P 7.93500	0.76803	-0.29202
1S 29.20590	0.02036	-0.00152	0.00018	2P 14.56820	0.06068	-0.02203
2S 7.54560	-0.00013	1.00183	-0.40856	3P 3.36913	-0.00785	0.68384
2S 16.48640	0.06187	-0.14834	0.05976	3P 2.59749	0.00555	0.43157
3S 3.70399	-0.00107	-0.01216	0.73385	3P 6.28890	0.22838	-0.13336
3S 2.86873	0.00056	0.00620	0.47929			
3S 6.32710	0.00123	0.14884	-0.23063			

*CALCIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.66482639E 03 P.E.=-0.13296603E 04 K.E.= 0.66483385E 03 V.T.=-0.19999888E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-153.47211	-20.71974	-5.34431	BASIS/ORB E	-17.53129	-4.55734
1S 20.01910	0.93560	-0.28366	0.10901	2P 8.36132	0.78241	-0.31156
1S 30.42910	0.02121	-0.00044	-0.00018	2P 15.18180	0.06353	-0.02398
2S 8.01705	-0.00065	1.01646	-0.43048	3P 3.69742	-0.01115	0.69865
2S 17.16360	0.05584	-0.15322	0.06440	3P 2.92411	0.00712	0.43013
3S 4.03316	-0.00136	-0.01587	0.75739	3P 6.66899	0.20870	-0.14078
3S 3.18756	0.00071	0.00795	0.48192			
3S 6.70674	0.00154	0.14234	-0.25516			

*SCANDIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.74310841E 03 P.E.=-0.14862258E 04 K.E.= 0.74311738E 03 V.T.=-0.19999878E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-171.10857	-24.04978	-6.55215	BASIS/ORB E	-20.64445	-5.68210
1S 20.96710	0.93917	-0.28987	0.11442	2P 8.78895	0.79546	-0.32929
1S 31.65230	0.02199	0.00065	-0.00049	2P 15.79550	0.06619	-0.02571
2S 8.49223	-0.00110	1.03006	-0.45079	3P 4.02570	-0.01424	0.71254
2S 17.84090	0.05090	-0.15833	0.06918	3P 3.25073	0.00865	0.43026
3S 4.36234	-0.00165	-0.01988	0.78175	3P 7.04351	0.19083	-0.14804
3S 3.50678	0.00087	0.00987	0.48436			
3S 7.08062	0.00182	0.13711	-0.27971			

*TITANIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.82584256E 03 P.E.=-0.16516955E 04 K.E.= 0.82585306E 03 V.T.=-0.19999872E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-189.74856	-27.63318	-7.87323	BASIS/ORB E	-24.01068	-6.92029
1S 21.92290	0.94203	-0.29557	0.11925	2P 9.21777	0.80728	-0.34548
1S 32.87540	0.02267	0.00175	-0.00077	2P 16.40910	0.06870	-0.02725
2S 8.97143	-0.00152	1.04263	-0.46965	3P 4.35399	-0.01697	0.72601
2S 18.51820	0.04689	-0.16364	0.07409	3P 3.57734	0.01004	0.43115
3S 4.69152	-0.00196	-0.02412	0.80708	3P 7.41401	0.17450	-0.15527
3S 3.82633	0.00104	0.01192	0.48627			
3S 7.45071	0.00211	0.13308	-0.30439			

*VANADIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.91302747E 03 P.E.=-0.18260656E 04 K.E.= 0.91303814E 03 V.T.=-0.19999883E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-209.39154	-31.46930	-9.30711	BASIS/ORB E	-27.62937	-8.27143
1S 22.88610	0.94435	-0.30083	0.12359	2P 9.64768	0.81795	-0.36034
1S 34.09860	0.02323	0.00287	-0.00104	2P 17.02270	0.07108	-0.02863
2S 9.45489	-0.00195	1.05421	-0.48716	3P 4.68228	-0.01918	0.73931
2S 19.19550	0.04366	-0.16913	0.07909	3P 3.90396	0.01122	0.43237
3S 5.02070	-0.00231	-0.02852	0.83335	3P 7.78197	0.15947	-0.16252
3S 4.14615	0.00124	0.01409	0.48746			
3S 7.81895	0.00240	0.13018	-0.32922			

*CHROMIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.10046621E 04 P.E.=-0.20093364E 04 K.E.= 0.10046743E 04 V.T.=-0.19999878E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-230.03683	-35.55757	-10.85347	BASIS/ORB E	-31.50000	-9.73519
1S 23.85660	0.94627	-0.30571	0.12754	2P 10.07860	0.82759	-0.37402
1S 35.32180	0.02364	0.00401	-0.00132	2P 17.63640	0.07336	-0.02987
2S 9.94290	-0.00239	1.06481	-0.50336	3P 5.01056	-0.02080	0.75259
2S 19.87270	0.04109	-0.17478	0.08415	3P 4.23058	0.01212	0.43362
3S 5.34987	-0.00271	-0.03311	0.86045	3P 8.14890	0.14555	-0.16979
3S 4.46616	0.00147	0.01639	0.48781			
3S 8.18730	0.00273	0.12839	-0.35421			

*MANGANESE K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.11007456E 04 P.E.=-0.22015048E 04 K.E.= 0.11007591E 04 V.T.=-0.19999875E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-251.68416	-39.89763	-12.51207	BASIS/ORB E	-35.62227	-11.31130
1S 24.83430	0.94786	-0.31024	0.13116	2P 10.51050	0.83629	-0.38666
1S 36.54500	0.02389	0.00516	-0.00161	2P 18.25000	0.07555	-0.03099
2S 10.43560	-0.00287	1.07454	-0.51832	3P 5.33885	-0.02174	0.76584
2S 20.55000	0.03911	-0.18060	0.08923	3P 4.55720	0.01267	0.43478
3S 5.67905	-0.00319	-0.03782	0.88805	3P 8.51611	0.13258	-0.17707
3S 4.78632	0.00174	0.01879	0.48742			
3S 8.55757	0.00311	0.12758	-0.37924			

*IRON K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.12012772E 04 P.E.=-0.24025687E 04 K.E.= 0.12012914E 04 V.T.=-0.19999882E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-274.33324	-44.48923	-14.28272	BASIS/ORB E	-39.99592	-12.99957
1S 25.81890	0.94923	-0.31445	0.13450	2P 10.94320	0.84417	-0.39836
1S 37.76820	0.02397	0.00633	-0.00193	2P 18.86360	0.07765	-0.03201
2S 10.93340	-0.00341	1.08341	-0.53203	3P 5.66713	-0.02191	0.77899
2S 21.22730	0.03762	-0.18658	0.09431	3P 4.88382	0.01282	0.43578
3S 6.00823	-0.00375	-0.04266	0.91568	3P 8.88524	0.12038	-0.18430
3S 5.10656	0.00206	0.02131	0.48645			
3S 8.93181	0.00354	0.12774	-0.40413			

*COBALT K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.13062567E 04 P.E.=-0.26125284E 04 K.E.= 0.13062716E 04 V.T.=-0.19999883E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-297.98381	-49.33209	-16.16528	BASIS/ORB E	-44.62072	-14.79984
1S 26.81010	0.95043	-0.31839	0.13764	2P 11.37680	0.85130	-0.40919
1S 38.99140	0.02389	0.00752	-0.00229	2P 19.47730	0.07967	-0.03295
2S 11.43640	-0.00401	1.09149	-0.54451	3P 5.99542	-0.02132	0.79189
2S 21.90450	0.03656	-0.19271	0.09933	3P 5.21044	0.01256	0.43667
3S 6.33740	-0.00440	-0.04755	0.94281	3P 9.25770	0.10884	-0.19142
3S 5.42682	0.00244	0.02391	0.48509			
3S 9.31189	0.00404	0.12875	-0.42865			

*NICKEL K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.14156832E 04 P.E.=-0.28313816E 04 K.E.= 0.14156984E 04 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-322.63568	-54.42605	-18.15962	BASIS/ORB E	-49.49652	-16.71196
1S 27.80790	0.95152	-0.32207	0.14061	2P 11.81100	0.85778	-0.41922
1S 40.21450	0.02364	0.00871	-0.00270	2P 20.09090	0.08162	-0.03382
2S 11.94490	-0.00467	1.09883	-0.55573	3P 6.32371	-0.01996	0.80434
2S 22.58180	0.03588	-0.19900	0.10427	3P 5.53705	0.01186	0.43751
3S 6.66658	-0.00515	-0.05244	0.96869	3P 9.63497	0.09786	-0.19832
3S 5.74704	0.00288	0.02657	0.48370			
3S 9.69975	0.00461	0.13054	-0.45250			

*COPPER K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.15295567E 04 P.E.=-0.30591299E 04 K.E.= 0.15295731E 04 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-348.28862	-59.77092	-20.26566	BASIS/ORB E	-54.62313	-18.73585
1S 28.81190	0.95253	-0.32554	0.14346	2P 12.24580	0.86371	-0.42852
1S 41.43770	0.02322	0.00993	-0.00317	2P 20.70460	0.08350	-0.03464
2S 12.45920	-0.00541	1.10545	-0.56569	3P 6.65199	-0.01782	0.81604
2S 23.25910	0.03554	-0.20542	0.10908	3P 5.86367	0.01071	0.43848
3S 6.99576	-0.00599	-0.05729	0.99255	3P 10.01850	0.08733	-0.20490
3S 6.06716	0.00339	0.02928	0.48266			
3S 10.09730	0.00524	0.13306	-0.47536			

*ZINC K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.16478767E 04 P.E.=-0.32957698E 04 K.E.= 0.16478930E 04 V.T.=-0.19999900E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-374.94258	-65.36661	-22.48331	BASIS/ORB E	-60.00051	-20.87141
1S 29.82210	0.95349	-0.32881	0.14623	2P 12.68120	0.86913	-0.43710
1S 42.66090	0.02264	0.01116	-0.00373	2P 21.31820	0.08530	-0.03543
2S 12.97950	-0.00624	1.11138	-0.57432	3P 6.98028	-0.01501	0.82670
2S 23.93640	0.03550	-0.21198	0.11369	3P 6.19029	0.00916	0.43974
3S 7.32494	-0.00694	-0.06200	1.01373	3P 10.40980	0.07725	-0.21105
3S 6.38712	0.00396	0.03200	0.48228			
3S 10.50650	0.00593	0.13624	-0.49698			

*GALLIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.17706431E 04 P.E.=-0.35413036E 04 K.E.= 0.17706606E 04 V.T.=-0.19999900E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-402.59738	-71.21300	-24.81251	BASIS/ORB E	-65.62851	-23.11857
1S 30.83820	0.95443	-0.33191	0.14897	2P 13.11700	0.87413	-0.44502
1S 43.88410	0.02191	0.01240	-0.00437	2P 21.93180	0.08703	-0.03620
2S 13.50600	-0.00716	1.11667	-0.58161	3P 7.30857	-0.01156	0.83601
2S 24.61360	0.03573	-0.21867	0.11808	3P 6.51691	0.00722	0.44146
3S 7.65411	-0.00797	-0.06636	1.03121	3P 10.81030	0.06753	-0.21667
3S 6.70685	0.00459	0.03461	0.48314			
3S 10.92920	0.00669	0.13992	-0.51694			

*GERMANIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.18978556E 04 P.E.=-0.37957287E 04 K.E.= 0.18978731E 04 V.T.=-0.19999906E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-431.25298	-77.31001	-27.25322	BASIS/ORB E	-71.50708	-25.47728
1S 31.85990	0.95538	-0.33485	0.15168	2P 13.55320	0.87877	-0.45230
1S 45.10730	0.02102	0.01366	-0.00510	2P 22.54550	0.08869	-0.03698
2S 14.03910	-0.00816	1.12128	-0.58750	3P 7.63685	-0.00762	0.84370
2S 25.29090	0.03618	-0.22548	0.12221	3P 6.84353	0.00495	0.44385
3S 7.98329	-0.00904	-0.07032	1.04412	3P 11.22150	0.05818	-0.22166
3S 7.02630	0.00527	0.03709	0.48576			
3S 11.36750	0.00748	0.14410	-0.53497			

*ARSENIC K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.20295139E 04 P.E.=-0.40590455E 04 K.E.= 0.20295314E 04 V.T.=-0.19999913E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-460.90916	-83.65751	-29.80535	BASIS/ORB E	-77.63610	-27.94748
1S 32.88720	0.95633	-0.33766	0.15442	2P 13.98970	0.88310	-0.45893
1S 46.33040	0.01999	0.01494	-0.00594	2P 23.15910	0.09029	-0.03777
2S 14.57890	-0.00926	1.12528	-0.59194	3P 7.96514	-0.00330	0.84951
2S 25.96820	0.03687	-0.23241	0.12601	3P 7.17014	0.00242	0.44705
3S 8.31247	-0.01018	-0.07358	1.05180	3P 11.64480	0.04918	-0.22597
3S 7.34539	0.00600	0.03927	0.49055			
3S 11.82310	0.00832	0.14861	-0.55089			

*SELENIUM K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.21656182E 04 P.E.=-0.43312620E 04 K.E.= 0.21656438E 04 V.T.=-0.19999880E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-491.56605	-90.25558	-32.46892	BASIS/ORB E	-84.01563	-30.52914
1S 33.91980	0.95731	-0.34037	0.15721	2P 14.42630	0.88719	-0.46498
1S 47.55360	0.01883	0.01624	-0.00690	2P 23.77270	0.09181	-0.03858
2S 15.12560	-0.01047	1.12862	-0.59483	3P 8.29343	0.00126	0.85285
2S 26.64540	0.03775	-0.23940	0.12941	3P 7.49676	-0.00031	0.45154
3S 8.64164	-0.01132	-0.07603	1.05365	3P 12.08170	0.04053	-0.22942
3S 7.66409	0.00675	0.04108	0.49795			
3S 12.29810	0.00918	0.15342	-0.56458			

*BROMINE K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.23061679E 04 P.E.=-0.46123567E 04 K.E.= 0.23061887E 04 V.T.=-0.19999909E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-523.22350	-97.10404	-35.24386	BASIS/ORB E	-90.64552	-33.22220
1S 34.95740	0.95832	-0.34299	0.16011	2P 14.86310	0.89107	-0.47039
1S 48.77680	0.01753	0.01758	-0.00802	2P 24.38640	0.09325	-0.03945
2S 15.67970	-0.01177	1.13125	-0.59600	3P 8.62171	0.00591	0.85383
2S 27.32270	0.03881	-0.24645	0.13231	3P 7.82338	-0.00315	0.45723
3S 8.97082	-0.01245	-0.07755	1.04951	3P 12.53380	0.03225	-0.23211
3S 7.98231	0.00751	0.04243	0.50811			
3S 12.79430	0.01006	0.15853	-0.57620			

*KRYPTON K(2)L(8)3S(2)3P(2) -1D
T.E.=-0.24511634E 04 P.E.=-0.49023492E 04 K.E.= 0.24511857E 04 V.T.=-0.19999909E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-555.88141	-104.20288	-38.13015	BASIS/ORB E	-97.52574	-36.02665
1S 36.00000	0.95937	-0.34554	0.16313	2P 15.30000	0.89480	-0.47519
1S 50.00000	0.01612	0.01895	-0.00928	2P 25.00000	0.09462	-0.04037
2S 16.24120	-0.01320	1.13319	-0.59537	3P 8.95000	0.01049	0.85196
2S 28.00000	0.04006	-0.25353	0.13465	3P 8.15000	-0.00600	0.46453
3S 9.30000	-0.01355	-0.07782	1.03897	3P 13.00240	0.02435	-0.23394
3S 8.30000	0.00828	0.04312	0.52145			
3S 13.31370	0.01095	0.16381	-0.58576			

TABLE 23- 01

*SILICON K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.28875738E 03 P.E.=-0.57753313E 03 K.E.= 0.28877573E 03 V.T.=-0.19999363E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.84241	-6.18467	-0.55611	BASIS/ORB E	-4.28382	-0.20791
1S 14.49890	0.88223	-0.22649	0.05915	2P 5.26540	0.71612	-0.13638
1S 23.20000	0.01862	-0.00924	0.00203	2P 9.68000	0.09348	-0.02386
2S 5.26980	0.00524	0.91179	-0.25525	3P 2.21840	0.00091	0.33882
2S 13.10000	0.11845	-0.13378	0.03613	3P 1.04880	0.00218	0.79742
3S 2.16430	0.00061	-0.00788	0.55261	3P 3.98960	0.26451	-0.11138
3S 1.33200	-0.00025	0.00348	0.57294			
3S 4.24790	-0.00181	0.21237	-0.12484			

*PHOSPHORUS K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.34021929E 03 P.E.=-0.68043265E 03 K.E.= 0.34021337E 03 V.T.=-0.20000173E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-80.41800	-7.94846	-1.05458	BASIS/ORB E	-5.83567	-0.60305
1S 15.37750	0.89849	-0.24370	-0.07095	2P 6.15351	0.69285	-0.16490
1S 24.41820	0.01847	-0.00524	-0.00136	2P 11.41020	0.05855	-0.02016
2S 5.68578	0.00397	0.93057	0.29376	3P 2.33401	0.00505	0.52723
2S 13.77730	0.10038	-0.12920	-0.03993	3P 1.21550	0.00125	0.61887
3S 2.62698	0.00033	0.00422	-0.41592	3P 4.68091	0.31960	-0.14119
3S 1.75511	-0.00013	-0.00099	-0.71043			
3S 4.80121	-0.00120	0.18617	0.14090			

*SULFUR K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.39617391E 03 P.E.=-0.79236636E 03 K.E.= 0.39619243E 03 V.T.=-0.19999532E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-93.00255	-9.97445	-1.67208	BASIS/ORB E	-7.64828	-1.12216
1S 16.27130	0.91070	-0.25637	-0.08001	2P 6.61973	0.71635	-0.20496
1S 25.63640	0.01892	-0.00292	-0.00138	2P 12.43220	0.05549	-0.01993
2S 6.11374	0.00283	0.95182	0.33090	3P 2.49364	0.00268	0.68074
2S 14.45460	0.08615	-0.12905	-0.04521	3P 1.41829	0.00145	0.45369
3S 3.05766	-0.00002	0.01222	-0.29384	3P 5.09255	0.29486	-0.13955
3S 2.15363	0.00002	-0.00391	-0.83402			
3S 5.31210	-0.00053	0.16257	0.14569			

*CHLORINE K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.45660564E 03 P.E.=-0.91324035E 03 K.E.= 0.45663469E 03 V.T.=-0.19999363E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-106.60697	-12.27134	-2.41354	BASIS/ORB E	-9.73064	-1.76597
1S 17.17950	0.91993	-0.26644	-0.08789	2P 7.07742	0.73699	-0.24088
1S 26.85450	0.01967	-0.00138	-0.00144	2P 13.35740	0.05414	-0.01900
2S 6.55305	0.00184	0.97269	0.36472	3P 2.69343	0.00051	0.78832
2S 15.13180	0.07492	-0.13132	-0.05067	3P 1.65400	0.00184	0.33011
3S 3.45918	-0.00037	0.01602	-0.20062	3P 5.49849	0.27163	-0.12997
3S 2.52971	0.00018	-0.00531	-0.93304			
3S 5.78487	0.00010	0.14351	0.14985			

*ARGON K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.52150317E 03 P.E.=-0.10430300E 04 K.E.= 0.52152690E 03 V.T.=-0.19999544E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-121.22566	-14.83294	-3.27553	BASIS/ORB E	-12.07688	-2.53020
1S 18.10120	0.92696	-0.27487	-0.09518	2P 7.52745	0.75532	-0.27164
1S 28.07270	0.02052	-0.00018	-0.00128	2P 14.19510	0.05402	-0.01842
2S 7.00311	0.00100	0.99180	0.39391	3P 2.92948	-0.00152	0.86290
2S 15.80910	0.06604	-0.13502	-0.05568	3P 1.91945	0.00239	0.24611
3S 3.83434	-0.00070	0.01651	-0.13990	3P 5.89936	0.24980	-0.12134
3S 2.88552	0.00033	-0.00557	-1.00543			
3S 6.22386	0.00065	0.12930	0.15864			

*POTASSIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.59086069E 03 P.E.=-0.11817358E 04 K.E.= 0.59087523E 03 V.T.=-0.19999754E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-136.85287	-17.65335	-4.25454	BASIS/ORB E	-14.68133	-3.41161
1S 19.03550	0.93236	-0.28216	-0.10207	2P 7.97070	0.77166	-0.29748
1S 29.29090	0.02134	0.00086	-0.00088	2P 14.95450	0.05486	-0.01853
2S 7.46330	0.00027	1.00870	0.41832	3P 3.19797	-0.00340	0.91373
2S 16.48640	0.05904	-0.13962	-0.06010	3P 2.21151	0.00301	0.19413
3S 4.18594	-0.00102	0.01456	-0.11283	3P 6.29580	0.22930	-0.11713
3S 3.22318	0.00047	-0.00497	-1.05065			
3S 6.63330	0.00113	0.11954	0.17435			

*CALCIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.66467473E 03 P.E.=-0.13293567E 04 K.E.= 0.66468202E 03 V.T.=-0.19999889E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-153.48560	-20.72941	-5.34853	BASIS/ORB E	-17.54094	-4.40839
1S 19.98160	0.93653	-0.28858	-0.10859	2P 8.40798	0.78621	-0.31908
1S 30.50910	0.02206	0.00184	-0.00026	2P 15.64550	0.05649	-0.01933
2S 7.93301	-0.00039	1.02343	0.43864	3P 3.49484	-0.00509	0.94548
2S 17.16360	0.05355	-0.14488	-0.06406	3P 2.52681	0.00366	0.16815
3S 4.51690	-0.00135	0.01083	-0.11847	3P 6.68858	0.21006	-0.11786
3S 3.54501	0.00063	-0.00371	-1.06936			
3S 7.01795	0.00158	0.11355	0.19723			

*SCANDIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.74294292E 03 P.E.=-0.14858889E 04 K.E.= 0.74294601E 03 V.T.=-0.19999958E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-171.12240	-24.05955	-6.55639	BASIS/ORB E	-20.65426	-5.51942
1S 20.93860	0.93980	-0.29430	-0.11466	2P 8.84020	0.79907	-0.33719
1S 31.72730	0.02263	0.00278	0.00046	2P 16.27700	0.05880	-0.02071
2S 8.41161	-0.00102	1.03628	0.45589	3P 3.81638	-0.00661	0.95999
2S 17.84090	0.04929	-0.15066	-0.06781	3P 2.86235	0.00429	0.16448
3S 4.82995	-0.00171	0.00567	-0.15490	3P 7.07825	0.19206	-0.12282
3S 3.85304	0.00081	-0.00184	-1.06273			
3S 7.38174	0.00202	0.11067	0.22638			

*TITANIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.82566337E 03 P.E.=-0.16513290E 04 K.E.= 0.82566570E 03 V.T.=-0.19999971E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-189.76246	-27.64292	-7.87746	BASIS/ORB E	-24.02049	-6.74398
1S 21.90550	0.94239	-0.29942	-0.12020	2P 9.26820	0.81034	-0.35259
1S 32.94540	0.02303	0.00371	0.00120	2P 16.85850	0.06171	-0.02252
2S 8.89851	-0.00165	1.04756	0.47119	3P 4.15864	-0.00797	0.95830
2S 18.51820	0.04601	-0.15688	-0.07164	3P 3.21488	0.00490	0.18036
3S 5.12794	-0.00214	-0.00066	-0.21820	3P 7.46549	0.17527	-0.13086
3S 4.14949	0.00103	0.00061	-1.03333			
3S 7.72919	0.00248	0.11028	0.26000			

*VANADIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.91283467E 03 P.E.=-0.18256737E 04 K.E.= 0.91283900E 03 V.T.=-0.19999951E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-209.40527	-31.47890	-9.31131	BASIS/ORB E	-27.63909	-8.08156
1S 22.88150	0.94450	-0.30404	0.12511	2P 9.69285	0.82010	-0.36595
1S 34.16360	0.02325	0.00463	-0.00187	2P 17.39930	0.06514	-0.02461
2S 9.39307	-0.00228	1.05762	-0.48543	3P 4.51774	-0.00921	0.94121
2S 19.19550	0.04354	-0.16348	0.07581	3P 3.58122	0.00550	0.21356
3S 5.41370	-0.00263	-0.00804	0.30360	3P 7.85098	0.15969	-0.14074
3S 4.43653	0.00129	0.00366	0.98433			
3S 8.06462	0.00295	0.11183	-0.29613			

*CHROMIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.10044557E 04 P.E.=-0.20089164E 04 K.E.= 0.10044608E 04 V.T.=-0.19999950E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-230.05046	-35.56708	-10.85763	BASIS/ORB E	-31.50965	-9.53180
1S 23.86580	0.94626	-0.30821	0.12938	2P 10.11500	0.82842	-0.37782
1S 35.38180	0.02328	0.00553	-0.00240	2P 17.90910	0.06901	-0.02687
2S 9.89470	-0.00296	1.06672	-0.49923	3P 4.88975	-0.01041	0.90988
2S 19.87270	0.04172	-0.17042	0.08048	3P 3.95813	0.00613	0.26173
3S 5.69007	-0.00323	-0.01629	0.40560	3P 8.23540	0.14529	-0.15134
3S 4.71636	0.00162	0.00730	0.91963			
3S 8.39250	0.00348	0.11488	-0.33287			

*MANGANESE K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.11005256E 04 P.E.=-0.22010580E 04 K.E.= 0.11005323E 04 V.T.=-0.19999938E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-251.69760	-39.90705	-12.51618	BASIS/ORB E	-35.63185	-11.09444
1S 24.85740	0.94777	-0.31202	0.13301	2P 10.53550	0.83539	-0.38862
1S 36.60000	0.02314	0.00643	-0.00277	2P 18.39670	0.07326	-0.02919
2S 10.40280	-0.00364	1.07508	-0.51291	3P 5.27090	-0.01163	0.86575
2S 20.55000	0.04042	-0.17764	0.08572	3P 4.34256	0.00683	0.32251
3S 5.95980	-0.00390	-0.02530	0.51880	3P 8.61932	0.13208	-0.16171
3S 4.99106	0.00200	0.01151	0.84322			
3S 8.71690	0.00403	0.11905	-0.36873			

*IRON K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.12010439E 04 P.E.=-0.24020901E 04 K.E.= 0.12010462E 04 V.T.=-0.19999982E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-274.34660	-44.49859	-14.28677	BASIS/ORB E	-40.00544	-12.76926
1S 25.85550	0.94913	-0.31551	0.13607	2P 10.95530	0.84117	-0.39867
1S 37.81820	0.02283	0.00732	-0.00299	2P 18.87200	0.07775	-0.03147
2S 10.91670	-0.00436	1.08288	-0.52655	3P 5.65720	-0.01292	0.81120
2S 21.22730	0.03953	-0.18510	0.09149	3P 4.73119	0.00763	0.39278
3S 6.22580	-0.00465	-0.03479	0.63727	3P 9.00349	0.12001	-0.17113
3S 5.26290	0.00243	0.01621	0.75973			
3S 9.04244	0.00460	0.12395	-0.40246			

*COBALT K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.13060099E 04 P.E.=-0.26120324E 04 K.E.= 0.13060226E 04 V.T.=-0.19999903E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-297.99673	-49.34131	-16.16925	BASIS/ORB E	-44.63009	-14.55611
1S 26.85920	0.95036	-0.31875	0.13867	2P 11.37510	0.84594	-0.40817
1S 39.03640	0.02239	0.00822	-0.00310	2P 19.34420	0.08237	-0.03364
2S 11.43580	-0.00511	1.09020	-0.54000	3P 6.04478	-0.01425	0.74921
2S 21.90450	0.03897	-0.19270	0.09768	3P 5.12088	0.00852	0.46911
3S 6.49086	-0.00550	-0.04456	0.75586	3P 9.38854	0.10899	-0.17912
3S 5.53402	0.00294	0.02130	0.67352			
3S 9.37339	0.00521	0.12930	-0.43342			

*NICKEL K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.14154231E 04 P.E.=-0.28308608E 04 K.E.= 0.14154377E 04 V.T.=-0.19999897E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-322.64833	-54.43517	-18.16352	BASIS/ORB E	-49.50577	-16.45487
1S 27.86760	0.95153	-0.32181	0.14093	2P 11.79590	0.84994	-0.41726
1S 40.25450	0.02181	0.00914	-0.00315	2P 19.82260	0.08693	-0.03563
2S 11.95950	-0.00588	1.09709	-0.55299	3P 6.42977	-0.01558	0.68371
2S 22.58180	0.03866	-0.20038	0.10409	3P 5.50845	0.00947	0.54736
3S 6.75780	-0.00641	-0.05427	0.86944	3P 9.77513	0.09890	-0.18551
3S 5.80659	0.00350	0.02662	0.58911			
3S 9.71411	0.00583	0.13485	-0.46125			

TABLE 23- 04

*COPPER K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.15292832E 04 P.E.=-0.30585826E 04 K.E.= 0.15292995E 04 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-348.30105	-59.77997	-20.26948	BASIS/ORB E	-54.63230	-18.46542
1S 28.87990	0.95264	-0.32472	0.14301	2P 12.21850	0.85351	-0.42602
1S 41.47270	0.02115	0.01010	-0.00319	2P 20.31660	0.09122	-0.03737
2S 12.48720	-0.00668	1.10358	-0.56516	3P 6.80828	-0.01667	0.61961
2S 23.25910	0.03856	-0.20806	0.11050	3P 5.89070	0.01036	0.62263
3S 7.02945	-0.00738	-0.06349	0.97330	3P 10.16390	0.08951	-0.19042
3S 6.08278	0.00411	0.03192	0.51095			
3S 10.06890	0.00647	0.14033	-0.48596			

*ZINC K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.16475899E 04 P.E.=-0.32952014E 04 K.E.= 0.16476115E 04 V.T.=-0.19999868E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-374.95485	-65.37559	-22.48706	BASIS/ORB E	-60.00959	-20.58769
1S 29.89510	0.95372	-0.32756	0.14506	2P 12.64380	0.85699	-0.43447
1S 42.69090	0.02041	0.01110	-0.00332	2P 20.83570	0.09500	-0.03881
2S 13.01830	-0.00750	1.10961	-0.57612	3P 7.17643	-0.01725	0.56271
2S 23.93640	0.03860	-0.21563	0.11665	3P 6.26445	0.01100	0.68945
3S 7.30863	-0.00838	-0.07187	1.06287	3P 10.55560	0.08059	-0.19421
3S 6.36477	0.00475	0.03697	0.44351			
3S 10.44220	0.00710	0.14559	-0.50772			

*GALLIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.17703430E 04 P.E.=-0.35407092E 04 K.E.= 0.17703664E 04 V.T.=-0.19999868E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-402.60934	-71.22184	-24.81618	BASIS/ORB E	-65.63745	-22.82158
1S 30.91250	0.95478	-0.33038	0.14720	2P 13.07270	0.86078	-0.44262
1S 43.90910	0.01962	0.01217	-0.00361	2P 21.38910	0.09801	-0.03990
2S 13.55210	-0.00836	1.11519	-0.58549	3P 7.53032	-0.01697	0.51980
2S 24.61360	0.03874	-0.22301	0.12230	3P 6.62651	0.01116	0.74150
3S 7.59817	-0.00938	-0.07883	1.13355	3P 10.95070	0.07185	-0.19747
3S 6.65472	0.00541	0.04139	0.39138			
3S 10.83840	0.00775	0.15036	-0.52677			

*GERMANIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.18975422E 04 P.E.=-0.37951048E 04 K.E.= 0.18975624E 04 V.T.=-0.19999892E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-431.26498	-77.31883	-27.25683	BASIS/ORB E	-71.51599	-25.16708
1S 31.93100	0.95580	-0.33323	0.14959	2P 13.50590	0.86527	-0.45053
1S 45.12730	0.01883	0.01332	-0.00412	2P 21.98630	0.09999	-0.04060
2S 14.08810	-0.00924	1.12021	-0.59284	3P 7.86608	-0.01533	0.49783
2S 25.29090	0.03895	-0.23008	0.12717	3P 6.97370	0.01052	0.77221
3S 7.90089	-0.01036	-0.08396	1.18090	3P 11.35010	0.06298	-0.20066
3S 6.95481	0.00607	0.04487	0.35906			
3S 11.26170	0.00838	0.15458	-0.54343			

*ARSENIC K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.20291875E 04 P.E.=-0.40583961E 04 K.E.= 0.20292087E 04 V.T.=-0.19999895E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-460.92123	-83.66630	-29.80895	BASIS/ORB E	-77.64498	-27.62408
1S 32.95000	0.95678	-0.33613	0.15232	2P 13.94440	0.87077	-0.45822
1S 46.34540	0.01805	0.01457	-0.00491	2P 22.63660	0.10073	-0.04085
2S 14.62560	-0.01016	1.12462	-0.59781	3P 8.17981	-0.01198	0.50414
2S 25.96820	0.03922	-0.23676	0.13103	3P 7.30283	0.00879	0.77453
3S 8.21960	-0.01132	-0.08676	1.20025	3P 11.75420	0.05380	-0.20409
3S 7.26722	0.00672	0.04705	0.35115			
3S 11.71650	0.00903	0.15807	-0.55786			

TABLE 23- 05

*SELENIUM K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.21652786E 04 P.E.=-0.43305784E 04 K.E.= 0.21652997E 04 V.T.=-0.19999901E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-491.57820	-90.26427	-32.47251	BASIS/ORB E	-84.02444	-30.19257
1S 33.96830	0.95772	-0.33914	0.15547	2P 14.38900	0.87748	-0.46583
1S 47.56360	0.01732	0.01592	-0.00602	2P 23.34940	0.10010	-0.04058
2S 15.16410	-0.01112	1.12830	-0.60007	3P 8.46763	-0.00663	0.54569
2S 26.64540	0.03950	-0.24295	0.13367	3P 7.61071	0.00567	0.74132
3S 8.55715	-0.01216	-0.08692	1.18650	3P 12.16390	0.04421	-0.20761
3S 7.59410	0.00731	0.04768	0.37250			
3S 12.20720	0.00966	0.16083	-0.56998			

*BROMINE K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.23058154E 04 P.E.=-0.46116532E 04 K.E.= 0.23058376E 04 V.T.=-0.19999903E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-523.23575	-97.11264	-35.24744	BASIS/ORB E	-90.65426	-32.87248
1S 34.98530	0.95859	-0.34228	0.15907	2P 14.84060	0.88548	-0.47356
1S 48.78180	0.01666	0.01738	-0.00748	2P 24.13410	0.09804	-0.03971
2S 15.70280	-0.01212	1.13121	-0.59936	3P 8.72565	0.00098	0.62885
2S 27.32270	0.03978	-0.24857	0.13493	3P 7.89416	0.00085	0.66553
3S 8.91634	-0.01290	-0.08397	1.13447	3P 12.57980	0.03427	-0.21040
3S 7.93764	0.00783	0.04640	0.42775			
3S 12.73820	0.01029	0.16271	-0.57943			

*KRYPTON K(2)L(8)3S(2)3P(2) -1S
T.E.=-0.24507978E 04 P.E.=-0.49016163E 04 K.E.= 0.24508184E 04 V.T.=-0.19999915E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-555.89394	-104.21142	-38.13372	BASIS/ORB E	-97.53448	-35.66381
1S 36.00000	0.95937	-0.34554	0.16312	2P 15.30000	0.89465	-0.48172
1S 50.00000	0.01612	0.01895	-0.00927	2P 25.00000	0.09461	-0.03816
2S 16.24120	-0.01320	1.13323	-0.59549	3P 8.95000	0.01069	0.75977
2S 28.00000	0.04006	-0.25354	0.13470	3P 8.15000	-0.00574	0.53977
3S 9.30000	-0.01354	-0.07785	1.03925	3P 13.00240	0.02427	-0.21106
3S 8.30000	0.00828	0.04315	0.52115			
3S 13.31370	0.01095	0.16378	-0.58567			

*PHOSPHORUS K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.34071857E 03 P.E.=-0.68143678E 03 K.E.= 0.34071822E 03 V.T.=-0.20000009E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.97005	-7.51120	-0.69659	BASIS/ORB E	-5.40104	-0.39182
1S 15.95160	0.84182	-0.20864	0.05648	2P 6.50530	0.65921	-0.15856
1S 23.00000	0.02517	-0.01850	0.00556	2P 12.50000	0.03621	-0.00842
2S 5.59360	0.00644	0.94760	-0.28552	3P 2.03510	0.00877	0.53099
2S 14.51070	0.15669	-0.14687	0.04349	3P 1.19780	-0.00181	0.55906
3S 2.42950	0.00084	0.00224	0.58362	3P 4.86050	0.37907	-0.09827
3S 1.50220	-0.00034	-0.00001	0.54948			
3S 4.70000	-0.00272	0.16104	-0.11914			

*SULFUR K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.39717285E 03 P.E.=-0.79434041E 03 K.E.= 0.39716753E 03 V.T.=-0.20000134E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.43506	-9.42865	-1.24095	BASIS/ORB E	-7.10488	-0.86231
1S 16.77440	0.86724	-0.22562	0.06656	2P 6.87816	0.68900	-0.19369
1S 24.28570	0.02206	-0.01428	0.00512	2P 13.09520	0.04118	-0.01131
2S 6.02776	0.00420	0.97083	-0.32313	3P 2.35724	0.00377	0.57440
2S 15.15020	0.13193	-0.14531	0.04813	3P 1.52171	0.00030	0.51211
3S 2.75429	0.00033	0.00222	0.59450	3P 5.23427	0.33972	-0.10997
3S 1.82114	-0.00013	0.00009	0.54889			
3S 5.09204	-0.00137	0.14216	-0.13555			

*CHLORINE K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.45822604E 03 P.E.=-0.91644868E 03 K.E.= 0.45822265E 03 V.T.=-0.20000073E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-105.92197	-11.62098	-1.91304	BASIS/ORB E	-9.08205	-1.45868
1S 17.61480	0.88628	-0.23986	0.07619	2P 7.25940	0.71507	-0.22412
1S 25.57140	0.02093	-0.01105	0.00442	2P 13.69050	0.04580	-0.01405
2S 6.47837	0.00248	0.98851	-0.35476	3P 2.67938	-0.00046	0.60478
2S 15.79040	0.11196	-0.14525	0.05213	3P 1.84563	0.00209	0.48553
3S 3.07907	-0.00018	0.00188	0.60821	3P 5.60761	0.30490	-0.11840
3S 2.14008	0.00009	0.00028	0.55073			
3S 5.49911	-0.00029	0.12993	-0.15490			

*ARGON K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.52386475E 03 P.E.=-0.10477289E 04 K.E.= 0.52386414E 03 V.T.=-0.20000011E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-120.42327	-14.07938	-2.70651	BASIS/ORB E	-11.32414	-2.17575
1S 18.47200	0.90067	-0.25191	0.08507	2P 7.64842	0.73791	-0.25088
1S 26.85710	0.02096	-0.00853	0.00363	2P 14.28570	0.05008	-0.01661
2S 6.94428	0.00117	1.00179	-0.38110	3P 3.00151	-0.00387	0.62830
2S 16.43110	0.09579	-0.14648	0.05580	3P 2.16954	0.00351	0.46983
3S 3.40386	-0.00065	0.00099	0.62203	3P 5.98060	0.27400	-0.12507
3S 2.45903	0.00031	0.00069	0.55500			
3S 5.91958	0.00056	0.12316	-0.17606			

*POTASSIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.59408095E 03 P.E.=-0.11881640E 04 K.E.= 0.59408309E 03 V.T.=-0.19999964E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-135.93462	-16.79886	-3.61800	BASIS/ORB E	-13.82641	-3.01060
1S 19.34530	0.91165	-0.26225	0.09322	2P 8.04464	0.75791	-0.27465
1S 28.14290	0.02162	-0.00648	0.00281	2P 14.88100	0.05401	-0.01896
2S 7.42431	0.00020	1.01162	-0.40287	3P 3.32365	-0.00657	0.64797
2S 17.07250	0.08268	-0.14881	0.05928	3P 2.49346	0.00463	0.46025
3S 3.72864	-0.00105	-0.00055	0.63514	3P 6.35327	0.24654	-0.13082
3S 2.77797	0.00050	0.00139	0.56103			
3S 6.35181	0.00118	0.12079	-0.19843			

*CALCIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.66886935E 03 P.E.=-0.13377427E 04 K.E.= 0.66887344E 03 V.T.=-0.19999938E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-152.45338	-19.77636	-4.64552	BASIS/ORB E	-16.58598	-3.96140
1S 20.23410	0.92010	-0.27123	0.10068	2P 8.44750	0.77541	-0.29590
1S 29.42860	0.02256	-0.00475	0.00196	2P 15.47620	0.05764	-0.02111
2S 7.91730	-0.00053	1.01876	-0.42077	3P 3.64579	-0.00866	0.66545
2S 17.71430	0.07204	-0.15204	0.06264	3P 2.81737	0.00550	0.45416
3S 4.05343	-0.00136	-0.00267	0.64721	3P 6.72570	0.22215	-0.13618
3S 3.09691	0.00067	0.00237	0.56827			
3S 6.79420	0.00164	0.12189	-0.22152			

*SCANDIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.74822631E 03 P.E.=-0.14964610E 04 K.E.= 0.74823466E 03 V.T.=-0.19999888E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-169.97773	-23.00984	-5.78780	BASIS/ORB E	-19.60097	-5.02697
1S 21.13770	0.92666	-0.27912	0.10753	2P 8.85626	0.79073	-0.31501
1S 30.71430	0.02358	-0.00321	0.00108	2P 16.07140	0.06098	-0.02307
2S 8.42197	-0.00110	1.02389	-0.43544	3P 3.96793	-0.01026	0.68176
2S 18.35650	0.06344	-0.15603	0.06592	3P 3.14128	0.00618	0.45001
3S 4.37822	-0.00161	-0.00530	0.65815	3P 7.09787	0.20044	-0.14144
3S 3.41586	0.00081	0.00362	0.57634			
3S 7.24503	0.00197	0.12562	-0.24495			

*TITANIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.83214922E 03 P.E.=-0.16643073E 04 K.E.= 0.83215806E 03 V.T.=-0.19999894E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-188.50657	-26.49798	-7.04398	BASIS/ORB E	-22.87016	-6.20649
1S 22.05540	0.93180	-0.28612	0.11383	2P 9.27046	0.80412	-0.33227
1S 32.00000	0.02452	-0.00180	0.00019	2P 16.66670	0.06408	-0.02485
2S 8.93726	-0.00156	1.02753	-0.44743	3P 4.29007	-0.01148	0.69750
2S 18.99920	0.05650	-0.16066	0.06917	3P 3.46520	0.00671	0.44688
3S 4.70300	-0.00182	-0.00831	0.66794	3P 7.46990	0.18112	-0.14681
3S 3.73480	0.00093	0.00508	0.58493			
3S 7.70275	0.00221	0.13128	-0.26842			

*VANADIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.92063612E 03 P.E.=-0.18412805E 04 K.E.= 0.92064445E 03 V.T.=-0.19999909E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-208.03895	-30.23978	-8.41346	BASIS/ORB E	-26.39263	-7.49938
1S 22.98640	0.93588	-0.29240	0.11965	2P 9.68945	0.81584	-0.34792
1S 33.28570	0.02532	-0.00046	-0.00073	2P 17.26190	0.06695	-0.02646
2S 9.46193	-0.00198	1.03017	-0.45725	3P 4.61220	-0.01239	0.71310
2S 19.64210	0.05095	-0.16585	0.07239	3P 3.78911	0.00714	0.44414
3S 5.02779	-0.00200	-0.01158	0.67666	3P 7.84182	0.16388	-0.15236
3S 4.05374	0.00104	0.00673	0.59386			
3S 8.16570	0.00242	0.13826	-0.29167			

*CHROMIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.10136855E 04 P.E.=-0.20273803E 04 K.E.= 0.10136948E 04 V.T.=-0.19999909E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-228.57427	-34.23454	-9.89583	BASIS/ORB E	-30.16774	-8.90520
1S 23.93020	0.93917	-0.29809	0.12504	2P 10.11260	0.82611	-0.36217
1S 34.57140	0.02591	0.00084	-0.00166	2P 17.85710	0.06964	-0.02791
2S 9.99481	-0.00238	1.03220	-0.46536	3P 4.93434	-0.01305	0.72879
2S 20.28530	0.04657	-0.17150	0.07563	3P 4.11303	0.00746	0.44142
3S 5.35257	-0.00218	-0.01501	0.68444	3P 8.21368	0.14844	-0.15814
3S 4.37268	0.00116	0.00851	0.60295			
3S 8.63223	0.00262	0.14607	-0.31451			

TABLE 24- 03

*MANGANESE K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.11112965E 04 P.E.=-0.22226004E 04 K.E.= 0.11113039E 04 V.T.=-0.19999932E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-250.11205	-38.48174	-11.49073	BASIS/ORB E	-34.19503	-10.42363
1S 24.88610	0.94185	-0.30327	0.13003	2P 10.53940	0.83514	-0.37522
1S 35.85710	0.02628	0.00213	-0.00259	2P 18.45240	0.07216	-0.02923
2S 10.53470	-0.00284	1.03397	-0.47217	3P 5.25648	-0.01347	0.74480
2S 20.92860	0.04319	-0.17758	0.07889	3P 4.43694	0.00771	0.43842
3S 5.67736	-0.00239	-0.01855	0.69148	3P 8.58550	0.13456	-0.16415
3S 4.69163	0.00130	0.01040	0.61205			
3S 9.10070	0.00285	0.15427	-0.33679			

*IRON K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.12134679E 04 P.E.=-0.24269462E 04 K.E.= 0.12134782E 04 V.T.=-0.19999913E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-272.65181	-42.98092	-13.19794	BASIS/ORB E	-38.47408	-12.05441
1S 25.85330	0.94409	-0.30804	0.13465	2P 10.96920	0.84311	-0.38720
1S 37.14290	0.02640	0.00342	-0.00353	2P 19.04760	0.07453	-0.03042
2S 11.08050	-0.00335	1.03572	-0.47804	3P 5.57862	-0.01367	0.76119
2S 21.57210	0.04064	-0.18401	0.08221	3P 4.76086	0.00786	0.43499
3S 6.00214	-0.00264	-0.02218	0.69794	3P 8.95739	0.12200	-0.17038
3S 5.01057	0.00146	0.01238	0.62104			
3S 9.56953	0.00312	0.16258	-0.35840			

*COBALT K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.13201989E 04 P.E.=-0.26404101E 04 K.E.= 0.13202111E 04 V.T.=-0.19999907E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-296.19328	-47.73177	-15.01725	BASIS/ORB E	-43.00461	-13.79735
1S 26.83120	0.94600	-0.31244	0.13893	2P 11.40140	0.85018	-0.39828
1S 38.42860	0.02629	0.00472	-0.00446	2P 19.64290	0.07678	-0.03149
2S 11.63090	-0.00396	1.03775	-0.48332	3P 5.90076	-0.01363	0.77803
2S 22.21560	0.03882	-0.19078	0.08563	3P 5.08477	0.00790	0.43101
3S 6.32693	-0.00296	-0.02584	0.70418	3P 9.32936	0.11054	-0.17677
3S 5.32951	0.00166	0.01442	0.62971			
3S 10.03700	0.00345	0.17068	-0.37928			

*NICKEL K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.14314894E 04 P.E.=-0.28629921E 04 K.E.= 0.14315026E 04 V.T.=-0.19999906E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-320.73644	-52.73413	-16.94852	BASIS/ORB E	-47.78648	-15.65230
1S 27.81910	0.94768	-0.31652	0.14289	2P 11.83540	0.85651	-0.40856
1S 39.71430	0.02594	0.00603	-0.00537	2P 20.23810	0.07893	-0.03247
2S 12.18480	-0.00466	1.04023	-0.48830	3P 6.22289	-0.01331	0.79534
2S 22.85910	0.03759	-0.19785	0.08919	3P 5.40868	0.00779	0.42644
3S 6.65172	-0.00335	-0.02957	0.71038	3P 9.70146	0.09997	-0.18326
3S 5.64846	0.00191	0.01654	0.63796			
3S 10.50160	0.00386	0.17838	-0.39936			

*COPPER K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.15473384E 04 P.E.=-0.30946902E 04 K.E.= 0.15473518E 04 V.T.=-0.19999913E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-346.28081	-57.98768	-18.99162	BASIS/ORB E	-52.81940	-17.61912
1S 28.81630	0.94919	-0.32033	0.14653	2P 12.27050	0.86224	-0.41816
1S 41.00000	0.02538	0.00736	-0.00626	2P 20.83330	0.08099	-0.03336
2S 12.74100	-0.00548	1.04334	-0.49325	3P 6.54503	-0.01268	0.81309
2S 23.50260	0.03690	-0.20519	0.09291	3P 5.73260	0.00751	0.42124
3S 6.97650	-0.00383	-0.03339	0.71704	3P 10.07370	0.09010	-0.18981
3S 5.96740	0.00221	0.01874	0.64551			
3S 10.96150	0.00434	0.18551	-0.41870			

*ZINC K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.16677459E 04 P.E.=-0.33355056E 04 K.E.= 0.16677598E 04 V.T.=-0.19999915E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-372.82638	-63.49230	-21.14646	BASIS/ORB E	-58.10329	-19.69772
1S 29.82210	0.95060	-0.32391	0.14988	2P 12.70630	0.86747	-0.42716
1S 42.28570	0.02461	0.00870	-0.00710	2P 21.42860	0.08298	-0.03417
2S 13.29840	-0.00640	1.04717	-0.49842	3P 6.86717	-0.01166	0.83130
2S 24.14600	0.03665	-0.21275	0.09684	3P 6.05651	0.00701	0.41539
3S 7.30129	-0.00441	-0.03739	0.72433	3P 10.44630	0.08078	-0.19637
3S 6.28634	0.00258	0.02107	0.65227			
3S 11.41530	0.00490	0.19199	-0.43726			

*GALLIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.17927112E 04 P.E.=-0.35854384E 04 K.E.= 0.17927270E 04 V.T.=-0.19999912E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-400.37291	-69.24783	-23.41293	BASIS/ORB E	-63.63795	-21.88799
1S 30.83590	0.95194	-0.32729	0.15295	2P 13.14210	0.87229	-0.43566
1S 43.57140	0.02364	0.01006	-0.00791	2P 22.02380	0.08492	-0.03492
2S 13.85570	-0.00744	1.05188	-0.50402	3P 7.18931	-0.01025	0.84987
2S 24.78910	0.03677	-0.22053	0.10101	3P 6.38043	0.00626	0.40894
3S 7.62607	-0.00509	-0.04155	0.73281	3P 10.81910	0.07186	-0.20286
3S 6.60529	0.00301	0.02351	0.65791			
3S 11.86120	0.00553	0.19765	-0.45512			

*GERMANIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.19222344E 04 P.E.=-0.38444853E 04 K.E.= 0.19222508E 04 V.T.=-0.19999913E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-428.92039	-75.25420	-25.79101	BASIS/ORB E	-69.42337	-24.18989
1S 31.85690	0.95325	-0.33048	0.15574	2P 13.57730	0.87683	-0.44375
1S 44.85710	0.02250	0.01143	-0.00866	2P 22.61910	0.08682	-0.03562
2S 14.41170	-0.00857	1.05753	-0.51027	3P 7.51145	-0.00827	0.86873
2S 25.43200	0.03721	-0.22849	0.10548	3P 6.70434	0.00515	0.40193
3S 7.95086	-0.00588	-0.04596	0.74269	3P 11.19220	0.06316	-0.20919
3S 6.92423	0.00352	0.02611	0.66233			
3S 12.29760	0.00624	0.20243	-0.47226			

*ARSENIC K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.20563151E 04 P.E.=-0.41126414E 04 K.E.= 0.20563263E 04 V.T.=-0.19999944E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-458.46876	-81.51130	-28.28061	BASIS/ORB E	-75.45944	-26.60334
1S 32.88450	0.95454	-0.33353	0.15827	2P 14.01130	0.88114	-0.45147
1S 46.14280	0.02121	0.01283	-0.00934	2P 23.21430	0.08870	-0.03627
2S 14.96540	-0.00981	1.06417	-0.51731	3P 7.83359	-0.00567	0.88786
2S 26.07460	0.03792	-0.23658	0.11028	3P 7.02826	0.00364	0.39437
3S 8.27564	-0.00680	-0.05066	0.75454	3P 11.56570	0.05456	-0.21534
3S 7.24317	0.00411	0.02889	0.66518			
3S 12.72280	0.00702	0.20633	-0.48884			

*SELENIUM K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.21949528E 04 P.E.=-0.43899264E 04 K.E.= 0.21949735E 04 V.T.=-0.19999906E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-489.01765	-88.01896	-30.88168	BASIS/ORB E	-81.74601	-29.12829
1S 33.91800	0.95585	-0.33645	0.16054	2P 14.44340	0.88532	-0.45889
1S 47.42860	0.01978	0.01423	-0.00995	2P 23.80950	0.09057	-0.03690
2S 15.51540	-0.01112	1.07183	-0.52530	3P 8.15572	-0.00240	0.90715
2S 26.71690	0.03883	-0.24477	0.11542	3P 7.35217	0.00169	0.38633
3S 8.60043	-0.00785	-0.05568	0.76868	3P 11.93970	0.04595	-0.22122
3S 7.56211	0.00479	0.03186	0.66629			
3S 13.13540	0.00787	0.20925	-0.50492			

TABLE 24- 05

*BROMINE K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.23381478E 04 P.E.=-0.46763163E 04 K.E.= 0.23381685E 04 V.T.=-0.19999912E 01

S				P		
BASIS/ORB E	-520.56725	-94.77722	-33.59419	BASIS/ORB E	-88.28311	-31.76471
1S 34.95680	0.95719	-0.33927	0.16256	2P 14.87320	0.88941	-0.46607
1S 48.71430	0.01822	0.01565	-0.01049	2P 24.40480	0.09244	-0.03750
2S 16.06070	-0.01248	1.08052	-0.53437	3P 8.47786	0.00170	0.92652
2S 27.35870	0.03991	-0.25302	0.12093	3P 7.67608	-0.00083	0.37786
3S 8.92521	-0.00904	-0.06105	0.78572	3P 12.31410	0.03720	-0.22678
3S 7.88106	0.00556	0.03503	0.66530			
3S 13.53350	0.00877	0.21120	-0.52067			

*KRYPTON K(2)L(8)3S(2)3P(3) -4S
T.E.=-0.24858998E 04 P.E.=-0.49718243E 04 K.E.= 0.24859244E 04 V.T.=-0.19999900E 01

S				P		
BASIS/ORB E	-553.11749	-101.78601	-36.41811	BASIS/ORB E	-95.07067	-34.51254
1S 36.00000	0.95855	-0.34201	0.16433	2P 15.30000	0.89349	-0.47307
1S 50.00000	0.01657	0.01710	-0.01095	2P 25.00000	0.09432	-0.03808
2S 16.60000	-0.01390	1.09021	-0.54464	3P 8.80000	0.00669	0.94573
2S 28.00000	0.04112	-0.26124	0.12686	3P 8.00000	-0.00396	0.36916
3S 9.25000	-0.01040	-0.06683	0.80599	3P 12.68910	0.02822	-0.23193
3S 8.20000	0.00644	0.03843	0.66204			
3S 13.91560	0.00975	0.21217	-0.53618			

*PHOSPHORUS K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.34064858E 03 P.E.=-0.68129807E 03 K.E.= 0.34064949E 03 V.T.=-0.19999973E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.98848	-7.52802	-0.70597	BASIS/ORB E	-5.41768	-0.35025
1S 16.04020	0.84379	-0.21014	0.05743	2P 6.50470	0.65977	-0.15655
1S 23.00000	0.01988	-0.01661	0.00486	2P 12.50000	0.03606	-0.00870
2S 5.65600	0.00509	0.92653	-0.27905	3P 2.10690	0.00847	0.49135
2S 14.45000	0.16122	-0.14860	0.04379	3P 1.18710	-0.00068	0.60880
3S 2.41970	0.00039	0.00414	0.58282	3P 4.85630	0.37848	-0.10211
3S 1.50850	-0.00016	-0.00063	0.54544			
3S 4.81350	-0.00170	0.18414	-0.12340			

*SULFUR K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.39708517E 03 P.E.=-0.79417040E 03 K.E.= 0.39708521E 03 V.T.=-0.19999999E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.45151	-9.44284	-1.24871	BASIS/ORB E	-7.11899	-0.80851
1S 16.88600	0.86702	-0.22489	0.06695	2P 6.90249	0.67996	-0.19008
1S 24.28570	0.01713	-0.01343	0.00459	2P 13.09520	0.04209	-0.01167
2S 6.10030	0.00277	0.94916	-0.31495	3P 2.42562	0.01005	0.52874
2S 15.10860	0.13859	-0.14889	0.04878	3P 1.51152	-0.00157	0.56410
3S 2.74495	-0.00017	0.00237	0.59116	3P 5.30560	0.34463	-0.11339
3S 1.82714	0.00009	0.00019	0.54740			
3S 5.20332	-0.00030	0.16754	-0.14102			

*CHLORINE K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.45812221E 03 P.E.=-0.91624448E 03 K.E.= 0.45812227E 03 V.T.=-0.19999999E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-105.93756	-11.63383	-1.91970	BASIS/ORB E	-9.09487	-1.39370
1S 17.74050	0.88493	-0.23812	0.07628	2P 7.29597	0.70275	-0.21993
1S 25.57140	0.01621	-0.01062	0.00394	2P 13.69050	0.04685	-0.01435
2S 6.55312	0.00096	0.96796	-0.34586	3P 2.74434	0.00861	0.55501
2S 15.76400	0.11974	-0.14965	0.05296	3P 1.83595	-0.00125	0.53857
3S 3.07020	-0.00075	0.00098	0.60329	3P 5.71583	0.31188	-0.12089
3S 2.14578	0.00035	0.00084	0.55074			
3S 5.60633	0.00085	0.15485	-0.16064			

*ARGON K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.52374572E 03 P.E.=-0.10474917E 04 K.E.= 0.52374611E 03 V.T.=-0.19999993E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-120.43833	-14.09145	-2.71243	BASIS/ORB E	-11.33621	-2.10028
1S 18.60410	0.89885	-0.24994	0.08507	2P 7.68613	0.72648	-0.24724
1S 26.85710	0.01643	-0.00815	0.00315	2P 14.28570	0.05082	-0.01672
2S 7.01437	-0.00043	0.98367	-0.37233	3P 3.06306	0.00492	0.57614
2S 16.41660	0.10395	-0.15095	0.05663	3P 2.16037	0.00013	0.52318
3S 3.39546	-0.00128	-0.00021	0.61591	3P 6.09191	0.28071	-0.12614
3S 2.46443	0.00061	0.00139	0.55605			
3S 6.02115	0.00175	0.14542	-0.18117			

*POTASSIUM K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.59394726E 03 P.E.=-0.11878958E 04 K.E.= 0.59394852E 03 V.T.=-0.19999977E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-135.94923	-16.81038	-3.62339	BASIS/ORB E	-13.83795	-2.92508
1S 19.47710	0.90977	-0.26051	0.09325	2P 8.07400	0.74990	-0.27257
1S 28.14290	0.01732	-0.00597	0.00227	2P 14.88100	0.05435	-0.01881
2S 7.48392	-0.00146	0.99688	-0.39496	3P 3.38178	-0.00016	0.59501
2S 17.06660	0.09067	-0.15283	0.05997	3P 2.48480	0.00222	0.51324
3S 3.72071	-0.00174	-0.00132	0.62801	3P 6.43884	0.25144	-0.13012
3S 2.78307	0.00085	0.00190	0.56290			
3S 6.44639	0.00242	0.13875	-0.20212			

*CALCIUM K(2)L(8)3S(2)3P(6) -2D
T.E.=-0.66872133E 03 P.E.=-0.13374457E 04 K.E.= 0.66872434E 03 V.T.=-0.19999955E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-152.46754	-19.78741	-4.65051	BASIS/ORB E	-16.59707	-3.86614
1S 20.35950	0.91839	-0.26996	0.10081	2P 8.46060	0.77215	-0.29619
1S 29.42860	0.01861	-0.00404	0.00136	2P 15.47620	0.05767	-0.02069
2S 7.96170	-0.00220	1.00800	-0.41425	3P 3.70050	-0.00582	0.61325
2S 17.71430	0.07945	-0.15527	0.06308	3P 2.80922	0.00467	0.50613
3S 4.04596	-0.00209	-0.00247	0.63923	3P 6.76150	0.22422	-0.13356
3S 3.10171	0.00104	0.00243	0.57083			
3S 6.88070	0.00288	0.13444	-0.22323			

*SCANDIUM K(2)L(8)3S(2)3P(6) -2D
T.E.=-0.74806419E 03 P.E.=-0.14961333E 04 K.E.= 0.74806914E 03 V.T.=-0.19999933E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-169.99155	-23.02050	-5.79248	BASIS/ORB E	-19.61168	-4.92218
1S 21.25190	0.92524	-0.27847	0.10782	2P 8.84693	0.79269	-0.31824
1S 30.71430	0.02005	-0.00229	0.00043	2P 16.07140	0.06092	-0.02237
2S 8.44731	-0.00271	1.01742	-0.43070	3P 4.01922	-0.01131	0.63173
2S 18.36000	0.06998	-0.15825	0.06604	3P 3.13364	0.00709	0.50037
3S 4.37121	-0.00236	-0.00371	0.64945	3P 7.06506	0.19905	-0.13693
3S 3.42036	0.00120	0.00302	0.57949			
3S 7.32253	0.00317	0.13211	-0.24431			

*TITANIUM K(2)L(8)3S(2)3P(6) -2D
T.E.=-0.83197326E 03 P.E.=-0.16639533E 04 K.E.= 0.83198000E 03 V.T.=-0.19999918E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-188.52008	-26.50829	-7.04843	BASIS/ORB E	-22.88052	-6.09234
1S 22.15430	0.93073	-0.28613	0.11429	2P 9.23401	0.81125	-0.33879
1S 32.00000	0.02152	-0.00068	-0.00051	2P 16.66670	0.06417	-0.02391
2S 8.94088	-0.00305	1.02540	-0.44469	3P 4.33793	-0.01598	0.65097
2S 19.00400	0.06200	-0.16174	0.06891	3P 3.45807	0.00915	0.49501
3S 4.69647	-0.00253	-0.00510	0.65871	3P 7.35430	0.17582	-0.14061
3S 3.73900	0.00131	0.00368	0.58859			
3S 7.77063	0.00333	0.13153	-0.26526			

*VANADIUM K(2)L(8)3S(2)3P(6) -2D
T.E.=-0.92044645E 03 P.E.=-0.18409003E 04 K.E.= 0.92045383E 03 V.T.=-0.19999920E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-208.05230	-30.24981	-8.41774	BASIS/ORB E	-26.40271	-7.37598
1S 23.06710	0.93514	-0.29305	0.12029	2P 9.62285	0.82773	-0.35788
1S 33.28570	0.02289	0.00082	-0.00145	2P 17.26190	0.06743	-0.02531
2S 9.44219	-0.00327	1.03218	-0.45660	3P 4.65665	-0.01932	0.67130
2S 19.64660	0.05530	-0.16573	0.07175	3P 3.78249	0.01057	0.48949
3S 5.02172	-0.00264	-0.00668	0.66710	3P 7.63425	0.15435	-0.14486
3S 4.05764	0.00139	0.00446	0.59790			
3S 8.22357	0.00339	0.13245	-0.28602			

*CHROMIUM K(2)L(8)3S(2)3P(6) -2D
T.E.=-0.10134823E 04 P.E.=-0.20269717E 04 K.E.= 0.10134894E 04 V.T.=-0.19999929E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-228.58756	-34.24433	-9.89996	BASIS/ORB E	-30.17760	-8.77265
1S 23.99060	0.93871	-0.29932	0.12582	2P 10.01450	0.84214	-0.37555
1S 34.57140	0.02411	0.00223	-0.00238	2P 17.85710	0.07068	-0.02660
2S 9.95110	-0.00343	1.03800	-0.46676	3P 4.97537	-0.02093	0.69284
2S 20.28800	0.04973	-0.17020	0.07460	3P 4.10691	0.01113	0.48344
3S 5.34697	-0.00271	-0.00845	0.67474	3P 7.90988	0.13444	-0.14985
3S 4.37628	0.00146	0.00534	0.60727			
3S 8.67994	0.00341	0.13463	-0.30651			

TABLE 25- 03

*MANGANESE K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.11110795E 04 P.E.=-0.22221653E 04 K.E.= 0.11110857E 04 V.T.=-0.19999944E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-250.12532	-38.49131	-11.49476	BASIS/ORB E	-34.20470	-10.28200
1S 24.92500	0.94163	-0.30503	0.13095	2P 10.40990	0.85457	-0.39181
1S 35.85710	0.02511	0.00359	-0.00331	2P 18.45240	0.07389	-0.02779
2S 10.46740	-0.00357	1.04304	-0.47546	3P 5.29409	-0.02057	0.71559
2S 20.92860	0.04516	-0.17513	0.07750	3P 4.43134	0.01070	0.47669
3S 5.67222	-0.00277	-0.01046	0.68189	3P 8.18620	0.11592	-0.15564
3S 4.69493	0.00151	0.00636	0.61651			
3S 9.13830	0.00341	0.13789	-0.32674			

*IRON K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.12132376E 04 P.E.=-0.24264793E 04 K.E.= 0.12132419E 04 V.T.=-0.19999964E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-272.66523	-42.99036	-13.20188	BASIS/ORB E	-38.48364	-11.90377
1S 25.87050	0.94404	-0.31021	0.13567	2P 10.81010	0.86515	-0.40671
1S 37.14290	0.02588	0.00490	-0.00421	2P 19.04760	0.07701	-0.02887
2S 10.99110	-0.00374	1.04748	-0.48300	3P 5.61281	-0.01823	0.73935
2S 21.56860	0.04148	-0.18053	0.08050	3P 4.75576	0.00925	0.46917
3S 5.99747	-0.00284	-0.01271	0.68866	3P 8.46805	0.09870	-0.16221
3S 5.01357	0.00158	0.00753	0.62550			
3S 9.59738	0.00343	0.14206	-0.34665			

*COBALT K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.13199553E 04 P.E.=-0.26399133E 04 K.E.= 0.13199580E 04 V.T.=-0.19999979E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-296.20690	-47.74113	-15.02113	BASIS/ORB E	-43.01410	-13.63775
1S 26.82750	0.94607	-0.31494	0.14001	2P 11.21620	0.87401	-0.42023
1S 38.42860	0.02636	0.00618	-0.00508	2P 19.64290	0.07997	-0.02987
2S 11.52200	-0.00398	1.05148	-0.48964	3P 5.93153	-0.01408	0.76384
2S 22.20830	0.03862	-0.18637	0.08364	3P 5.08019	0.00686	0.46090
3S 6.32273	-0.00296	-0.01529	0.69536	3P 8.76053	0.08276	-0.16946
3S 5.33221	0.00166	0.00890	0.63409			
3S 10.05570	0.00350	0.14701	-0.36626			

*NICKEL K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.14312322E 04 P.E.=-0.28624648E 04 K.E.= 0.14312325E 04 V.T.=-0.19999997E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-320.75009	-52.74338	-16.95234	BASIS/ORB E	-47.79588	-15.48377
1S 27.79630	0.94779	-0.31924	0.14400	2P 11.62910	0.88130	-0.43241
1S 39.71430	0.02657	0.00743	-0.00593	2P 20.23810	0.08275	-0.03077
2S 12.05990	-0.00434	1.05522	-0.49563	3P 6.25025	-0.00854	0.78855
2S 22.84800	0.03651	-0.19268	0.08698	3P 5.40461	0.00375	0.45204
3S 6.64798	-0.00314	-0.01822	0.70225	3P 9.06856	0.06820	-0.17717
3S 5.65086	0.00179	0.01048	0.64211			
3S 10.51180	0.00366	0.15260	-0.38558			

*COPPER K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.15470681E 04 P.E.=-0.30941383E 04 K.E.= 0.15470703E 04 V.T.=-0.19999985E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-346.29450	-57.99682	-18.99539	BASIS/ORB E	-52.82871	-17.44169
1S 28.77700	0.94931	-0.32316	0.14765	2P 12.04980	0.88714	-0.44323
1S 41.00000	0.02647	0.00867	-0.00674	2P 20.83330	0.08528	-0.03160
2S 12.60470	-0.00483	1.05883	-0.50119	3P 6.56897	-0.00223	0.81271
2S 23.48790	0.03508	-0.19946	0.09055	3P 5.72903	0.00022	0.44292
3S 6.97323	-0.00343	-0.02156	0.70965	3P 9.39712	0.05521	-0.18500
3S 5.96950	0.00198	0.01230	0.64937			
3S 10.96440	0.00393	0.15872	-0.40465			

*ZINC K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.16674621E 04 P.E.=-0.33349294E 04 K.E.= 0.16674673E 04 V.T.=-0.19999968E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-372.84009	-63.50138	-21.15018	BASIS/ORB E	-58.11253	-19.51141
1S 29.76990	0.95067	-0.32674	0.15096	2P 12.47940	0.89164	-0.45269
1S 42.28570	0.02606	0.00990	-0.00751	2P 21.42860	0.08754	-0.03234
2S 13.15630	-0.00548	1.06241	-0.50656	3P 6.88769	0.00404	0.83536
2S 24.12850	0.03428	-0.20671	0.09442	3P 6.05346	-0.00327	0.43400
3S 7.29848	-0.00383	-0.02546	0.71786	3P 9.75118	0.04411	-0.19256
3S 6.28814	0.00224	0.01447	0.65571			
3S 11.41200	0.00430	0.16532	-0.42347			

*GALLIUM K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.17924143E 04 P.E.=-0.35848304E 04 K.E.= 0.17924161E 04 V.T.=-0.19999989E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-400.38656	-69.25682	-23.41663	BASIS/ORB E	-63.64714	-21.69284
1S 30.77540	0.95194	-0.32998	0.15395	2P 12.91890	0.89487	-0.46073
1S 43.57140	0.02533	0.01111	-0.00824	2P 22.02380	0.08949	-0.03303
2S 13.71450	-0.00634	1.06613	-0.51191	3P 7.20640	0.00943	0.85560
2S 24.76990	0.03411	-0.21447	0.09863	3P 6.37788	-0.00629	0.42572
3S 7.62374	-0.00440	-0.02996	0.72725	3P 10.13570	0.03520	-0.19948
3S 6.60679	0.00260	0.01700	0.66093			
3S 11.85330	0.00483	0.17230	-0.44214			

*GERMANIUM K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.19219243E 04 P.E.=-0.38438509E 04 K.E.= 0.19219266E 04 V.T.=-0.19999988E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-428.93401	-75.26313	-25.79467	BASIS/ORB E	-69.43251	-23.98591
1S 31.79370	0.95317	-0.33293	0.15663	2P 13.36930	0.89691	-0.46733
1S 44.85710	0.02426	0.01233	-0.00891	2P 22.61910	0.09110	-0.03368
2S 14.27920	-0.00740	1.07007	-0.51746	3P 7.52512	0.01325	0.87222
2S 25.41250	0.03449	-0.22271	0.10326	3P 6.70231	-0.00842	0.41882
3S 7.94899	-0.00513	-0.03526	0.73822	3P 10.55560	0.02872	-0.20538
3S 6.92543	0.00307	0.02002	0.66478			
3S 12.28680	0.00549	0.17966	-0.46070			

*ARSENIC K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.20559917E 04 P.E.=-0.41119886E 04 K.E.= 0.20559969E 04 V.T.=-0.19999974E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-458.48210	-81.52013	-28.28424	BASIS/ORB E	-75.46848	-26.39055
1S 32.82500	0.95442	-0.33558	0.15900	2P 13.83160	0.89779	-0.47240
1S 46.14280	0.02286	0.01353	-0.00952	2P 23.21430	0.09239	-0.03432
2S 14.85020	-0.00867	1.07440	-0.52338	3P 7.84384	0.01489	0.88419
2S 26.05650	0.03540	-0.23152	0.10835	3P 7.02673	-0.00927	0.41399
3S 8.27424	-0.00606	-0.04134	0.75107	3P 11.01600	0.02485	-0.21001
3S 7.24407	0.00366	0.02352	0.66711			
3S 12.71120	0.00631	0.18727	-0.47921			

*SELENIUM K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.21946163E 04 P.E.=-0.43892390E 04 K.E.= 0.21946225E 04 V.T.=-0.19999971E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-489.03082	-88.02773	-30.88529	BASIS/ORB E	-81.75499	-28.90671
1S 33.86970	0.95570	-0.33798	0.16107	2P 14.30680	0.89751	-0.47584
1S 47.42860	0.02112	0.01473	-0.01007	2P 23.80950	0.09333	-0.03501
2S 15.42740	-0.01019	1.07912	-0.52981	3P 8.16256	0.01425	0.89061
2S 26.70220	0.03684	-0.24084	0.11394	3P 7.35115	-0.00873	0.41196
3S 8.59949	-0.00724	-0.04856	0.76639	3P 11.52170	0.02354	-0.21333
3S 7.56271	0.00441	0.02771	0.66755			
3S 13.12510	0.00730	0.19523	-0.49786			

TABLE 25- 05

*BROMINE K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.23377982E 04 P.E.=-0.46756113E 04 K.E.= 0.23378129E 04 V.T.=-0.19999936E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-520.58018	-94.78589	-33.59778	BASIS/ORB E	-88.29200	-31.53435
1S 34.92790	0.95707	-0.34013	0.16285	2P 14.79590	0.89604	-0.47751
1S 48.71430	0.01902	0.01593	-0.01055	2P 24.40480	0.09396	-0.03580
2S 16.01070	-0.01192	1.08437	-0.53687	3P 8.48128	0.01143	0.89073
2S 27.35000	0.03874	-0.25074	0.12010	3P 7.67558	-0.00676	0.41351
3S 8.92475	-0.00866	-0.05702	0.78468	3P 12.07770	0.02471	-0.21547
3S 7.88136	0.00532	0.03266	0.66582			
3S 13.52700	0.00843	0.20353	-0.51680			

*KRYPTON K(2)L(8)3S(2)3P(3) -2D
T.E.=-0.24855369E 04 P.E.=-0.49710990E 04 K.E.= 0.24855620E 04 V.T.=-0.19999898E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-553.13004	-101.79458	-36.42168	BASIS/ORB E	-95.07943	-34.27342
1S 36.00000	0.95856	-0.34202	0.16432	2P 15.30000	0.89328	-0.47717
1S 50.00000	0.01657	0.01711	-0.01094	2P 25.00000	0.09430	-0.03679
2S 16.60000	-0.01390	1.09024	-0.54474	3P 8.80000	0.00708	0.88418
2S 28.00000	0.04111	-0.26125	0.12690	3P 8.00000	-0.00373	0.41922
3S 9.25000	-0.01040	-0.06690	0.80639	3P 12.68910	0.02809	-0.21681
3S 8.20000	0.00643	0.03847	0.66167			
3S 13.91560	0.00975	0.21216	-0.53615			

TABLE 26- 01

*PHOSPHORUS K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.34060284E 03 P.E.=-0.68121433E 03 K.E.= 0.34061150E 03 V.T.=-0.19999745E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.99896	-7.53765	-0.71107	BASIS/ORB E	-5.42720	-0.32277
1S 15.79140	0.85269	-0.21313	0.05950	2P 6.57550	0.64783	-0.15262
1S 23.00000	0.02629	-0.01777	0.00452	2P 12.50000	0.03468	-0.00850
2S 5.79440	0.00636	0.87774	-0.26195	3P 2.16540	0.01069	0.45365
2S 14.39920	0.14280	-0.14489	0.04170	3P 1.19660	-0.00075	0.64929
3S 2.39150	0.00057	0.00754	0.59829	3P 4.91000	0.39127	-0.10689
3S 1.49510	-0.00025	-0.00181	0.52447			
3S 5.01270	-0.00237	0.23642	-0.13639			

*SULFUR K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.39702775E 03 P.E.=-0.79405219E 03 K.E.= 0.39702446E 03 V.T.=-0.20000082E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.46274	-9.45296	-1.25333	BASIS/ORB E	-7.12898	-0.77315
1S 16.52960	0.87707	-0.22925	0.07009	2P 6.92683	0.68126	-0.18979
1S 24.28570	0.02747	-0.01510	0.00408	2P 13.09520	0.04004	-0.01116
2S 6.23068	0.00543	0.90171	-0.29494	3P 2.48716	0.00479	0.49088
2S 15.07370	0.11360	-0.14190	0.04486	3P 1.52057	0.00148	0.60683
3S 2.71810	0.00049	0.00782	0.59954	3P 5.26815	0.34837	-0.11652
3S 1.81638	-0.00022	-0.00184	0.53103			
3S 5.44993	-0.00200	0.21588	-0.15380			

*CHLORINE K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.45805395E 03 P.E.=-0.91610316E 03 K.E.= 0.45804921E 03 V.T.=-0.20000103E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-105.94827	-11.64325	-1.92386	BASIS/ORB E	-9.10419	-1.35098
1S 17.32620	0.89515	-0.24272	0.08006	2P 7.29095	0.71006	-0.22216
1S 25.57140	0.02849	-0.01286	0.00338	2P 13.69050	0.04504	-0.01372
2S 6.67593	0.00467	0.92344	-0.32395	3P 2.80754	0.00018	0.51672
2S 15.74190	0.09176	-0.14111	0.04769	3P 1.84454	0.00317	0.58253
3S 3.04469	0.00041	0.00723	0.60524	3P 5.62911	0.31062	-0.12248
3S 2.13719	-0.00019	-0.00154	0.53864			
3S 5.88008	-0.00168	0.19889	-0.17256			

*ARGON K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.52366720E 03 P.E.=-0.10473309E 04 K.E.= 0.52366374E 03 V.T.=-0.20000065E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-120.44848	-14.10007	-2.71624	BASIS/ORB E	-11.34474	-2.05061
1S 18.17550	0.90820	-0.25410	0.08906	2P 7.66684	0.73489	-0.25065
1S 26.85710	0.02921	-0.01081	0.00260	2P 14.28570	0.04962	-0.01612
2S 7.13000	0.00395	0.94292	-0.34955	3P 3.12667	-0.00328	0.53637
2S 16.40430	0.07606	-0.14218	0.05059	3P 2.16851	0.00438	0.56838
3S 3.37129	0.00031	0.00592	0.61267	3P 5.99263	0.27741	-0.12651
3S 2.45758	-0.00015	-0.00095	0.54754			
3S 6.30404	-0.00136	0.18517	-0.19187			

*POTASSIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.59385883E 03 P.E.=-0.11877158E 04 K.E.= 0.59385693E 03 V.T.=-0.20000032E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-135.95902	-16.81834	-3.62694	BASIS/ORB E	-13.84585	-2.86873
1S 19.07190	0.91747	-0.26381	0.09708	2P 8.05350	0.75629	-0.27586
1S 28.14290	0.02946	-0.00881	0.00179	2P 14.88100	0.05379	-0.01832
2S 7.59271	0.00315	0.96029	-0.37229	3P 3.44469	-0.00581	0.55258
2S 17.06150	0.06530	-0.14482	0.05375	3P 2.49249	0.00523	0.56000
3S 3.69788	0.00015	0.00403	0.62113	3P 6.35848	0.24822	-0.12965
3S 2.77757	-0.00007	-0.00012	0.55712			
3S 6.72273	-0.00094	0.17441	-0.21147			

TABLE 26- 02

*CALCIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.66862331E 03 P.E.=-0.13372468E 04 K.E.= 0.66862359E 03 V.T.=-0.19999996E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-152.47711	-19.79489	-4.65387	BASIS/ORB E	-16.60452	-3.80330
1S 20.00950	0.92404	-0.27222	0.10419	2P 8.44990	0.77468	-0.29829
1S 29.42860	0.02916	-0.00679	0.00094	2P 15.47620	0.05757	-0.02033
2S 8.06400	0.00216	0.97574	-0.39263	3P 3.76175	-0.00765	0.56698
2S 17.71430	0.05841	-0.14876	0.05727	3P 2.81646	0.00583	0.55484
3S 4.02448	-0.00013	0.00169	0.63044	3P 6.72640	0.22263	-0.13253
3S 3.09722	0.00007	0.00092	0.56686			
3S 7.13700	-0.00037	0.16627	-0.23129			

*SCANDIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.74795676E 03 P.E.=-0.14959148E 04 K.E.= 0.74795814E 03 V.T.=-0.19999982E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-170.00103	-23.02767	-5.79570	BASIS/ORB E	-19.61884	-4.85300
1S 20.98280	0.92882	-0.27965	0.11053	2P 8.85511	0.79046	-0.31830
1S 30.71430	0.02823	-0.00468	0.00006	2P 16.07140	0.06100	-0.02215
2S 8.54331	0.00091	0.98959	-0.41099	3P 4.07786	-0.00903	0.58059
2S 18.36280	0.05447	-0.15375	0.06113	3P 3.14043	0.00628	0.55133
3S 4.35107	-0.00056	-0.00096	0.64054	3P 7.09610	0.20025	-0.13553
3S 3.41658	0.00030	0.00212	0.57634			
3S 7.54792	0.00042	0.16032	-0.25123			

*TITANIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.83185650E 03 P.E.=-0.16637163E 04 K.E.= 0.83185976E 03 V.T.=-0.19999961E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-188.52941	-26.51521	-7.05153	BASIS/ORB E	-22.88747	-6.01690
1S 21.98610	0.93247	-0.28631	0.11622	2P 9.26804	0.80399	-0.33622
1S 32.00000	0.02669	-0.00248	-0.00087	2P 16.66670	0.06413	-0.02378
2S 9.03082	-0.00065	1.00198	-0.42764	3P 4.39326	-0.01009	0.59405
2S 19.00800	0.05272	-0.15961	0.06534	3P 3.46440	0.00667	0.54854
3S 4.67767	-0.00122	-0.00391	0.65146	3P 7.46739	0.18068	-0.13886
3S 3.73567	0.00065	0.00347	0.58528			
3S 7.95625	0.00145	0.15636	-0.27131			

*VANADIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.92032050E 03 P.E.=-0.18406466E 04 K.E.= 0.92032610E 03 V.T.=-0.19999938E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-208.06142	-30.25654	-8.42074	BASIS/ORB E	-26.40950	-7.29436
1S 23.01370	0.93549	-0.29237	0.12137	2P 9.68771	0.81561	-0.35234
1S 33.28570	0.02458	-0.00018	-0.00184	2P 17.26190	0.06699	-0.02524
2S 9.52623	-0.00251	1.01317	-0.44282	3P 4.70804	-0.01098	0.60776
2S 19.65030	0.05252	-0.16618	0.06984	3P 3.78837	0.00703	0.54584
3S 5.00426	-0.00210	-0.00707	0.66313	3P 7.83998	0.16356	-0.14260
3S 4.05455	0.00114	0.00495	0.59351			
3S 8.36294	0.00273	0.15406	-0.29146			

*CHROMIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.10133471E 04 P.E.=-0.20267010E 04 K.E.= 0.10133538E 04 V.T.=-0.19999933E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-228.59639	-34.25089	-9.90287	BASIS/ORB E	-30.18424	-8.68491
1S 24.05990	0.93821	-0.29799	0.12608	2P 10.11310	0.82560	-0.36689
1S 34.57140	0.02202	0.00219	-0.00285	2P 17.85710	0.06962	-0.02655
2S 10.02930	-0.00464	1.02333	-0.45671	3P 5.02232	-0.01175	0.62202
2S 20.29040	0.05339	-0.17328	0.07458	3P 4.11234	0.00740	0.54281
3S 5.33086	-0.00325	-0.01044	0.67548	3P 8.21364	0.14852	-0.14678
3S 4.37326	0.00178	0.00655	0.60098			
3S 8.76891	0.00423	0.15321	-0.31165			

TABLE 26- 03

*MANGANESE K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.11109354E 04 P.E.=-0.22218809E 04 K.E.= 0.11109456E 04 V.T.=-0.19999907E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-250.13383	-38.49774	-11.49759	BASIS/ORB E	-34.21121	-10.18819
1S 25.11900	0.94083	-0.30324	0.13043	2P 10.54330	0.83424	-0.38009
1S 35.85710	0.01913	0.00460	-0.00389	2P 18.45240	0.07205	-0.02772
2S 10.53990	-0.00696	1.03261	-0.46946	3P 5.33620	-0.01245	0.63698
2S 20.92860	0.05488	-0.18080	0.07951	3P 4.43631	0.00780	0.53919
3S 5.65745	-0.00462	-0.01399	0.68838	3P 8.58810	0.13524	-0.15136
3S 4.69184	0.00256	0.00827	0.60767			
3S 9.17510	0.00589	0.15362	-0.33182			

*IRON K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.12130844E 04 P.E.=-0.24261819E 04 K.E.= 0.12130974E 04 V.T.=-0.19999891E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-272.67336	-42.99665	-13.20464	BASIS/ORB E	-38.49001	-11.80392
1S 26.18540	0.94344	-0.30818	0.13448	2P 10.97720	0.84178	-0.39214
1S 37.14290	0.01606	0.00700	-0.00494	2P 19.04760	0.07433	-0.02878
2S 11.05800	-0.00940	1.04112	-0.48115	3P 5.64988	-0.01305	0.65272
2S 21.56580	0.05668	-0.18864	0.08458	3P 4.76029	0.00818	0.53485
3S 5.98405	-0.00619	-0.01775	0.70170	3P 8.96314	0.12339	-0.15631
3S 5.01033	0.00347	0.01013	0.61362			
3S 9.58232	0.00765	0.15516	-0.35195			

*COBALT K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.13197931E 04 P.E.=-0.26395983E 04 K.E.= 0.13198052E 04 V.T.=-0.19999907E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-296.21470	-47.74729	-15.02382	BASIS/ORB E	-43.02035	-13.53189
1S 27.25340	0.94607	-0.31285	0.13828	2P 11.41380	0.84843	-0.40322
1S 38.42860	0.01301	0.00933	-0.00599	2P 19.64290	0.07647	-0.02972
2S 11.58310	-0.01185	1.04895	-0.49187	3P 5.96341	-0.01352	0.66934
2S 22.20240	0.05849	-0.19667	0.08969	3P 5.08426	0.00854	0.52962
3S 6.31064	-0.00790	-0.02170	0.71527	3P 9.33848	0.11268	-0.16153
3S 5.32878	0.00447	0.01212	0.61889			
3S 9.99158	0.00942	0.15765	-0.37195			

*NICKEL K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.14310610E 04 P.E.=-0.28621417E 04 K.E.= 0.14310806E 04 V.T.=-0.19999863E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-320.75749	-52.74939	-16.95497	BASIS/ORB E	-47.80198	-15.37193
1S 28.31730	0.94867	-0.31725	0.14185	2P 11.85210	0.85437	-0.41347
1S 39.71430	0.01017	0.01153	-0.00700	2P 20.23810	0.07852	-0.03058
2S 12.11520	-0.01418	1.05616	-0.50166	3P 6.27694	-0.01381	0.68678
2S 22.83900	0.06006	-0.20480	0.09482	3P 5.40823	0.00882	0.52353
3S 6.63724	-0.00963	-0.02585	0.72879	3P 9.71388	0.10283	-0.16695
3S 5.64723	0.00551	0.01426	0.62366			
3S 10.40380	0.01109	0.16101	-0.39175			

*COPPER K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.15468880E 04 P.E.=-0.30937986E 04 K.E.= 0.15469106E 04 V.T.=-0.19999853E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-346.30167	-58.00276	-18.99798	BASIS/ORB E	-52.83473	-17.32390
1S 29.37150	0.95116	-0.32140	0.14523	2P 12.29110	0.85977	-0.42304
1S 41.00000	0.00774	0.01354	-0.00797	2P 20.83330	0.08050	-0.03137
2S 12.65400	-0.01630	1.06276	-0.51050	3P 6.59059	-0.01379	0.70498
2S 23.47610	0.06120	-0.21292	0.09987	3P 5.73220	0.00895	0.51659
3S 6.96383	-0.01131	-0.03025	0.74219	3P 10.08910	0.09359	-0.17246
3S 5.96573	0.00654	0.01659	0.62795			
3S 10.81980	0.01259	0.16517	-0.41134			

*ZINC K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.16672732E 04 P.E.=-0.33345754E 04 K.E.= 0.16673022E 04 V.T.=-0.19999825E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-372.84706	-63.50721	-21.15273	BASIS/ORB E	-58.11846	-19.38769
1S 30.41010	0.95344	-0.32526	0.14842	2P 12.72990	0.86479	-0.43206
1S 42.28570	0.00593	0.01528	-0.00884	2P 21.42860	0.08242	-0.03209
2S 13.19940	-0.01806	1.06877	-0.51845	3P 6.90449	-0.01337	0.72388
2S 24.11440	0.06170	-0.22094	0.10479	3P 6.05617	0.00886	0.50883
3S 7.29043	-0.01280	-0.03486	0.75505	3P 10.46390	0.08473	-0.17800
3S 6.28431	0.00747	0.01910	0.63202			
3S 11.24050	0.01380	0.17006	-0.43060			

*GALLIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.17922165E 04 P.E.=-0.35844584E 04 K.E.= 0.17922419E 04 V.T.=-0.19999857E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-400.39360	-69.26263	-23.41915	BASIS/ORB E	-63.65304	-21.56322
1S 31.42770	0.95541	-0.32883	0.15144	2P 13.16730	0.86956	-0.44062
1S 43.57140	0.00491	0.01670	-0.00960	2P 22.02380	0.08433	-0.03277
2S 13.75130	-0.01934	1.07416	-0.52545	3P 7.21876	-0.01238	0.74336
2S 24.75440	0.06137	-0.22878	0.10950	3P 6.38014	0.00841	0.50035
3S 7.61702	-0.01397	-0.03973	0.76718	3P 10.83790	0.07601	-0.18346
3S 6.60302	0.00824	0.02183	0.63600			
3S 11.66690	0.01462	0.17564	-0.44948			

*GERMANIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.19217175E 04 P.E.=-0.38434637E 04 K.E.= 0.19217461E 04 V.T.=-0.19999851E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-428.94094	-75.26883	-25.79715	BASIS/ORB E	-69.43831	-23.85039
1S 32.41850	0.95698	-0.33209	0.15429	2P 13.60250	0.87417	-0.44884
1S 44.85710	0.00487	0.01773	-0.01022	2P 22.61910	0.08624	-0.03341
2S 14.30930	-0.02001	1.07891	-0.53148	3P 7.53352	-0.01069	0.76326
2S 25.39660	0.06005	-0.23631	0.11391	3P 6.70411	0.00752	0.49127
3S 7.94362	-0.01469	-0.04479	0.77827	3P 11.21100	0.06727	-0.18876
3S 6.92190	0.00875	0.02474	0.64008			
3S 12.09990	0.01496	0.18182	-0.46791			

*ARSENIC K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.20557761E 04 P.E.=-0.41115841E 04 K.E.= 0.20558079E 04 V.T.=-0.19999845E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-458.48919	-81.52581	-28.28670	BASIS/ORB E	-75.47426	-26.24915
1S 33.37680	0.95808	-0.33502	0.15698	2P 14.03440	0.87875	-0.45679
1S 46.14280	0.00593	0.01831	-0.01068	2P 23.21430	0.08817	-0.03404
2S 14.87340	-0.01994	1.08297	-0.53650	3P 7.84890	-0.00809	0.78342
2S 26.04180	0.05755	-0.24345	0.11796	3P 7.02808	0.00604	0.48175
3S 8.27021	-0.01481	-0.05008	0.78807	3P 11.58300	0.05827	-0.19382
3S 7.24099	0.00891	0.02787	0.64444			
3S 12.54030	0.01471	0.18859	-0.48585			

*SELENIUM K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.21943922E 04 P.E.=-0.43888119E 04 K.E.= 0.21944198E 04 V.T.=-0.19999874E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-489.03826	-88.03340	-30.88772	BASIS/ORB E	-81.76076	-28.75944
1S 34.29690	0.95870	-0.33765	0.15955	2P 14.46190	0.88338	-0.46457
1S 47.42860	0.00819	0.01841	-0.01096	2P 23.80950	0.09014	-0.03466
2S 15.44340	-0.01898	1.08626	-0.54042	3P 8.16502	-0.00438	0.80363
2S 26.69030	0.05368	-0.25006	0.12153	3P 7.35206	0.00381	0.47197
3S 8.59681	-0.01419	-0.05557	0.79628	3P 11.95350	0.04885	-0.19856
3S 7.56035	0.00862	0.03122	0.64930			
3S 12.98920	0.01380	0.19595	-0.50324			

TABLE 26- 05

*BROMINE K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.23375653E 04 P.E.=-0.46751554E 04 K.E.= 0.23375899E 04 V.T.=-0.19999895E 01

S	1S	2S	3S
BASIS/ORB E	-520.58801	-94.79159	-33.60020
1S 35.17320	0.95883	-0.33996	0.16198
1S 48.71430	0.01174	0.01801	-0.01105
2S 16.01890	-0.01702	1.08874	-0.54323
2S 27.34290	0.04828	-0.25605	0.12456
3S 8.92340	-0.01277	-0.06117	0.80254
3S 7.88000	0.00783	0.03476	0.65490
3S 13.44730	0.01217	0.20377	-0.51999

P	2P	3P
BASIS/ORB E	-88.29779	-31.38123
2P 14.88410	0.88815	-0.47226
2P 24.40480	0.09218	-0.03528
3P 8.48202	0.00068	0.82352
3P 7.67603	0.00068	0.46225
3P 12.32230	0.03882	-0.20285

*KRYPTON K(2)L(8)3S(2)3P(3) -2P
T.E.=-0.24852955E 04 P.E.=-0.49706110E 04 K.E.= 0.24853154E 04 V.T.=-0.19999920E 01

S	1S	2S	3S
BASIS/ORB E	-553.13840	-101.80028	-36.42407
1S 36.00000	0.95856	-0.34202	0.16432
1S 50.00000	0.01657	0.01710	-0.01093
2S 16.60000	-0.01390	1.09028	-0.54481
2S 28.00000	0.04111	-0.26126	0.12693
3S 9.25000	-0.01040	-0.06691	0.80660
3S 8.20000	0.00644	0.03848	0.66146
3S 13.91560	0.00975	0.21213	-0.53610

P	2P	3P
BASIS/ORB E	-95.08525	-34.11446
2P 15.30000	0.89314	-0.47992
2P 25.00000	0.09429	-0.03592
3P 8.80000	0.00732	0.84307
3P 8.00000	-0.00355	0.45264
3P 12.68910	0.02801	-0.20670

TABLE 27- 01

*SULFUR K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.39750469E 03 P.E.=-0.79500926E 03 K.E.= 0.39750456E 03 V.T.=-0.20000003E 01

S	1S	2S	3S
BASIS/ORB E	-92.00425	-9.00409	-0.87932
1S 15.48760	0.90140	-0.25527	0.07592
1S 22.00000	0.07058	-0.01584	0.00349
2S 6.75270	0.00511	0.78686	-0.24492
2S 14.06930	0.03556	-0.12863	0.03864
3S 2.61070	0.00024	0.00830	0.64936
3S 1.64260	-0.00012	-0.00157	0.47479
3S 5.74250	-0.00131	0.36083	-0.18154

P	2P	3P
BASIS/ORB E	-6.68230	-0.43719
2P 7.17630	0.64723	-0.16756
2P 13.50000	0.03215	-0.00771
3P 2.32770	0.01069	0.55526
3P 1.31940	-0.00169	0.54804
3P 5.43970	0.39078	-0.10975

*CHLORINE K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.45904839E 03 P.E.=-0.91809179E 03 K.E.= 0.45904341E 03 V.T.=-0.20000108E 01

S	1S	2S	3S
BASIS/ORB E	-105.36157	-11.07686	-1.47070
1S 16.52920	0.90697	-0.26765	0.08565
1S 23.40000	0.06436	-0.01017	0.00196
2S 7.12720	0.00413	0.82617	-0.27740
2S 14.76580	0.03679	-0.13093	0.04251
3S 2.93944	0.00015	0.00844	0.64017
3S 1.97047	-0.00008	-0.00159	0.49086
3S 6.15437	-0.00103	0.32203	-0.19326

P	2P	3P
BASIS/ORB E	-8.53976	-0.93926
2P 7.49615	0.67673	-0.19947
2P 13.80900	0.04069	-0.01110
3P 2.65344	0.00773	0.57928
3P 1.64593	-0.00057	0.51773
3P 5.81488	0.34754	-0.11638

*ARGON K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.52530414E 03 P.E.=-0.10506041E 04 K.E.= 0.52529996E 03 V.T.=-0.20000079E 01

S	1S	2S	3S
BASIS/ORB E	-119.74013	-13.42449	-2.18975
1S 17.56950	0.91211	-0.27732	0.09446
1S 24.80000	0.05876	-0.00592	0.00049
2S 7.52690	0.00300	0.86045	-0.30681
2S 15.46240	0.03784	-0.13517	0.04648
3S 3.26852	-0.	0.00820	0.63442
3S 2.29834	-0.00001	-0.00151	0.50787
3S 6.56720	-0.00058	0.29022	-0.20598

P	2P	3P
BASIS/ORB E	-10.67048	-1.56770
2P 7.83302	0.70207	-0.22760
2P 14.18190	0.04874	-0.01456
3P 2.97687	0.00538	0.59581
3P 1.97246	0.00029	0.50165
3P 6.19319	0.30943	-0.12028

*POTASSIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.59625855E 03 P.E.=-0.11925144E 04 K.E.= 0.59625586E 03 V.T.=-0.20000044E 01

S	1S	2S	3S
BASIS/ORB E	-135.13294	-16.03864	-3.03039
1S 18.60860	0.91683	-0.28519	0.10225
1S 26.20000	0.05372	-0.00261	-0.00082
2S 7.94945	0.00178	0.88971	-0.33308
2S 16.15890	0.03876	-0.14065	0.05066
3S 3.59765	-0.00024	0.00748	0.62985
3S 2.62621	0.00011	-0.00124	0.52615
3S 6.98087	-0.00001	0.26505	-0.21954

P	2P	3P
BASIS/ORB E	-13.06649	-2.31732
2P 8.18565	0.72404	-0.25264
2P 14.61290	0.05602	-0.01788
3P 3.29820	0.00357	0.60834
3P 2.29899	0.00092	0.49332
3P 6.57450	0.27588	-0.12269

*CALCIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.67190337E 03 P.E.=-0.13438055E 04 K.E.= 0.67190208E 03 V.T.=-0.20000018E 01

S	1S	2S	3S
BASIS/ORB E	-151.53583	-18.91439	-3.98929
1S 19.64630	0.92118	-0.29178	0.10911
1S 27.60000	0.04918	0.00008	-0.00198
2S 8.39246	0.00050	0.91432	-0.35638
2S 16.85540	0.03954	-0.14695	0.05502
3S 3.92683	-0.00054	0.00623	0.62572
3S 2.95408	0.00027	-0.00074	0.54540
3S 7.39524	0.00065	0.24586	-0.23399

P	2P	3P
BASIS/ORB E	-15.72312	-3.18511
2P 8.55276	0.74330	-0.27511
2P 15.09590	0.06233	-0.02093
3P 3.61764	0.00223	0.61870
3P 2.62552	0.00136	0.48929
3P 6.95871	0.24634	-0.12436

*SCANDIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.75223308E 03 P.E.=-0.15044670E 04 K.E.= 0.75223388E 03 V.T.=-0.19999988E 01

S	1S	2S	3S
BASIS/ORB E	-168.94618	-22.04863	-5.06443
1S 20.68230	0.92516	-0.29744	0.11514
1S 29.00000	0.04512	0.00230	-0.00296
2S 8.85360	-0.00080	0.93487	-0.37700
2S 17.55200	0.04023	-0.15378	0.05958
3S 4.25525	-0.00092	0.00444	0.62210
3S 3.28195	0.00047	0.00002	0.56488
3S 7.81020	0.00137	0.23184	-0.24920

P	2P	3P
BASIS/ORB E	-18.63747	-4.16919
2P 8.93310	0.76039	-0.29543
2P 15.62500	0.06761	-0.02360
3P 3.93542	0.00131	0.62793
3P 2.95205	0.00164	0.48763
3P 7.34570	0.22033	-0.12575

*TITANIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.83724379E 03 P.E.=-0.16744891E 04 K.E.= 0.83724532E 03 V.T.=-0.19999980E 01

S	1S	2S	3S
BASIS/ORB E	-187.36230	-25.43933	-6.25452
1S 21.71710	0.92881	-0.30239	0.12054
1S 30.40000	0.04144	0.00419	-0.00386
2S 9.33033	-0.00211	0.95209	-0.39514
2S 18.24850	0.04085	-0.16098	0.06420
3S 4.58533	-0.00137	0.00211	0.61818
3S 3.60982	0.00072	0.00106	0.58529
3S 8.22558	0.00212	0.22204	-0.26541

P	2P	3P
BASIS/ORB E	-21.80763	-5.26832
2P 9.32534	0.77572	-0.31392
2P 16.19390	0.07187	-0.02585
3P 4.25175	0.00079	0.63667
3P 3.27858	0.00174	0.48719
3P 7.73532	0.19735	-0.12714

*VANADIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.92693271E 03 P.E.=-0.18538681E 04 K.E.= 0.92693533E 03 V.T.=-0.19999970E 01

S	1S	2S	3S
BASIS/ORB E	-206.78299	-29.08508	-7.55869
1S 22.75020	0.93216	-0.30678	0.12535
1S 31.80000	0.03814	0.00581	-0.00463
2S 9.82042	-0.00338	0.96664	-0.41131
2S 18.94500	0.04138	-0.16841	0.06894
3S 4.91465	-0.00187	-0.00074	0.61473
3S 3.93769	0.00101	0.00239	0.60534
3S 8.64128	0.00287	0.21562	-0.28208

P	2P	3P
BASIS/ORB E	-25.23232	-6.48163
2P 9.72827	0.78960	-0.33084
2P 16.79700	0.07517	-0.02769
3P 4.56686	0.00064	0.64530
3P 3.60511	0.00167	0.48727
3P 8.12748	0.17700	-0.12870

*CHROMIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.10212978E 04 P.E.=-0.20425992E 04 K.E.= 0.10213014E 04 V.T.=-0.19999965E 01

S	1S	2S	3S
BASIS/ORB E	-227.20738	-32.98485	-8.97631
1S 23.78150	0.93524	-0.31073	0.12967
1S 33.20000	0.03517	0.00723	-0.00531
2S 10.32140	-0.00462	0.97914	-0.42580
2S 19.64160	0.04184	-0.17597	0.07374
3S 5.24402	-0.00243	-0.00408	0.61155
3S 4.26556	0.00133	0.00401	0.62519
3S 9.05716	0.00361	0.21178	-0.29915

P	2P	3P
BASIS/ORB E	-28.91059	-7.80849
2P 10.14060	0.80223	-0.34636
2P 17.42800	0.07764	-0.02914
3P 4.88094	0.00085	0.65408
3P 3.93164	0.00142	0.48741
3P 8.52207	0.15892	-0.13050

*MANGANESE K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.11203373E 04 P.E.=-0.22406825E 04 K.E.= 0.11203451E 04 V.T.=-0.19999930E 01

S	1S	2S	3S
BASIS/ORB E	-248.63473	-37.13787	-10.50692
1S 24.81110	0.93808	-0.31432	0.13358
1S 34.60000	0.03250	0.00850	-0.00591
2S 10.83100	-0.00579	0.99017	-0.43894
2S 20.33810	0.04221	-0.18359	0.07857
3S 5.57343	-0.00302	-0.00781	0.60866
3S 4.59343	0.00169	0.00588	0.64470
3S 9.47308	0.00432	0.20977	-0.31639

P	2P	3P
BASIS/ORB E	-32.84174	-9.24846
2P 10.56100	0.81378	-0.36065
2P 18.08100	0.07941	-0.03026
3P 5.19424	0.00139	0.66317
3P 4.25817	0.00100	0.48734
3P 8.91895	0.14278	-0.13261

*IRON K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.12240504E 04 P.E.=-0.24481068E 04 K.E.= 0.12240565E 04 V.T.=-0.19999950E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-271.06475	-41.54361	-12.15019	BASIS/ORB E	-37.02530	-10.80117
1S 25.83900	0.94070	-0.31764	0.13716	2P 10.98830	0.82433	-0.37382
1S 36.00000	0.03009	0.00965	-0.00646	2P 18.75000	0.08064	-0.03110
2S 11.34670	-0.00691	1.00021	-0.45099	3P 5.50695	0.00221	0.67266
2S 21.03460	0.04252	-0.19118	0.08338	3P 4.58470	0.00042	0.48688
3S 5.90350	-0.00365	-0.01185	0.60584	3P 9.31800	0.12834	-0.13502
3S 4.92130	0.00208	0.00797	0.66404			
3S 9.88890	0.00501	0.20895	-0.33365			

*COBALT K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.13324355E 04 P.E.=-0.26648785E 04 K.E.= 0.13324430E 04 V.T.=-0.19999944E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-294.49687	-46.20161	-13.90586	BASIS/ORB E	-41.46083	-12.46636
1S 26.86480	0.94310	-0.32073	0.14041	2P 11.42120	0.83395	-0.38595
1S 37.40000	0.02794	0.01070	-0.00695	2P 19.42910	0.08149	-0.03173
2S 11.86620	-0.00796	1.00964	-0.46230	3P 5.81930	0.00326	0.68263
2S 21.73120	0.04275	-0.19867	0.08818	3P 4.91123	-0.00031	0.48591
3S 6.23240	-0.00432	-0.01609	0.60366	3P 9.71913	0.11535	-0.13774
3S 5.24917	0.00249	0.01022	0.68243			
3S 10.30450	0.00566	0.20874	-0.35050			

*NICKEL K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.14454923E 04 P.E.=-0.28909926E 04 K.E.= 0.14455003E 04 V.T.=-0.19999944E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-318.93082	-51.11151	-15.77370	BASIS/ORB E	-46.14805	-14.24382
1S 27.88870	0.94533	-0.32368	0.14344	2P 11.85830	0.84271	-0.39713
1S 38.80000	0.02601	0.01170	-0.00741	2P 20.11220	0.08212	-0.03222
2S 12.38720	-0.00894	1.01874	-0.47296	3P 6.13151	0.00453	0.69307
2S 22.42770	0.04291	-0.20595	0.09289	3P 5.23776	-0.00118	0.48440
3S 6.56196	-0.00500	-0.02039	0.60153	3P 10.12220	0.10358	-0.14075
3S 5.57704	0.00292	0.01256	0.70058			
3S 10.71980	0.00628	0.20872	-0.36701			

*COPPER K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.15632199E 04 P.E.=-0.31264488E 04 K.E.= 0.15632289E 04 V.T.=-0.19999941E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-344.36636	-56.27304	-17.75358	BASIS/ORB E	-51.08669	-16.13338
1S 28.91050	0.94738	-0.32650	0.14626	2P 12.29850	0.85062	-0.40744
1S 40.20000	0.02429	0.01266	-0.00784	2P 20.79320	0.08264	-0.03263
2S 12.90710	-0.00985	1.02785	-0.48324	3P 6.44379	0.00591	0.70395
2S 23.12420	0.04300	-0.21297	0.09750	3P 5.56429	-0.00213	0.48237
3S 6.89156	-0.00570	-0.02451	0.59955	3P 10.52710	0.09290	-0.14399
3S 5.90491	0.00338	0.01485	0.71826			
3S 11.13460	0.00686	0.20835	-0.38288			

*ZINC K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.16856178E 04 P.E.=-0.33712451E 04 K.E.= 0.16856275E 04 V.T.=-0.19999941E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-370.80317	-61.68595	-19.84534	BASIS/ORB E	-56.27653	-18.13489
1S 29.93020	0.94929	-0.32925	0.14890	2P 12.74050	0.85773	-0.41693
1S 41.60000	0.02275	0.01361	-0.00826	2P 21.46620	0.08321	-0.03303
2S 13.42360	-0.01069	1.03710	-0.49329	3P 6.75635	0.00737	0.71526
2S 23.82080	0.04300	-0.21964	0.10196	3P 5.89082	-0.00314	0.47982
3S 7.22121	-0.00640	-0.02833	0.59765	3P 10.93370	0.08312	-0.14746
3S 6.23278	0.00384	0.01701	0.73551			
3S 11.54870	0.00740	0.20732	-0.39794			

*GALLIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.18126854E 04 P.E.=-0.36253820E 04 K.E.= 0.18126965E 04 V.T.=-0.19999938E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-398.24136	-67.35012	-22.04889	BASIS/ORB E	-61.71747	-20.24826
1S 30.94780	0.95106	-0.33197	0.15142	2P 13.18290	0.86407	-0.42568
1S 43.00000	0.02139	0.01457	-0.00867	2P 22.12520	0.08392	-0.03347
2S 13.93440	-0.01146	1.04668	-0.50321	3P 7.06943	0.00883	0.72684
2S 24.51730	0.04293	-0.22587	0.10623	3P 6.21735	-0.00416	0.47689
3S 7.55091	-0.00712	-0.03160	0.59574	3P 11.34190	0.07409	-0.15107
3S 6.56065	0.00432	0.01889	0.75238			
3S 11.96210	0.00792	0.20528	-0.41207			

*GERMANIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.19444227E 04 P.E.=-0.38888539E 04 K.E.= 0.19444313E 04 V.T.=-0.19999956E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-426.68057	-73.26534	-24.36414	BASIS/ORB E	-67.40934	-22.47337
1S 31.96300	0.95272	-0.33470	0.15382	2P 13.62450	0.86966	-0.43372
1S 44.40000	0.02017	0.01556	-0.00908	2P 22.76420	0.08491	-0.03400
2S 14.43710	-0.01213	1.05670	-0.51315	3P 7.38323	0.01024	0.73861
2S 25.21380	0.04275	-0.23157	0.11028	3P 6.54388	-0.00516	0.47366
3S 7.88065	-0.00781	-0.03413	0.59373	3P 11.75150	0.06568	-0.15479
3S 6.88852	0.00478	0.02038	0.76891			
3S 12.37460	0.00839	0.20193	-0.42511			

*ARSENIC K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.20808291E 04 P.E.=-0.41616733E 04 K.E.= 0.20808441E 04 V.T.=-0.19999927E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-456.12058	-79.43149	-26.79102	BASIS/ORB E	-73.35199	-24.81016
1S 32.97600	0.95423	-0.33744	0.15612	2P 14.06410	0.87447	-0.44111
1S 45.80000	0.01912	0.01657	-0.00949	2P 23.37720	0.08628	-0.03467
2S 14.92920	-0.01276	1.06735	-0.52323	3P 7.69797	0.01148	0.75038
2S 25.91040	0.04252	-0.23670	0.11408	3P 6.87041	-0.00603	0.47032
3S 8.21044	-0.00853	-0.03556	0.59141	3P 12.16250	0.05781	-0.15856
3S 7.21639	0.00528	0.02123	0.78526			
3S 12.78620	0.00885	0.19688	-0.43687			

*SELENIUM K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.22219043E 04 P.E.=-0.44438216E 04 K.E.= 0.22219171E 04 V.T.=-0.19999941E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-486.56149	-85.84845	-29.32946	BASIS/ORB E	-79.54535	-27.25855
1S 33.98650	0.95567	-0.34025	0.15838	2P 14.50030	0.87848	-0.44785
1S 47.20000	0.01819	0.01764	-0.00993	2P 23.95810	0.08815	-0.03556
2S 15.40850	-0.01330	1.07866	-0.53349	3P 8.01386	0.01244	0.76213
2S 26.60690	0.04218	-0.24115	0.11755	3P 7.19694	-0.00669	0.46693
3S 8.54028	-0.00921	-0.03583	0.58891	3P 12.57470	0.05038	-0.16240
3S 7.54426	0.00575	0.02140	0.80133			
3S 13.19650	0.00927	0.18999	-0.44734			

*BROMINE K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.23676483E 04 P.E.=-0.47353117E 04 K.E.= 0.23676634E 04 V.T.=-0.19999935E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-518.00307	-92.51614	-31.97940	BASIS/ORB E	-85.98936	-29.81849
1S 34.99450	0.95699	-0.34310	0.16056	2P 14.93200	0.88163	-0.45396
1S 48.60000	0.01739	0.01876	-0.01037	2P 24.50110	0.09065	-0.03671
2S 15.87240	-0.01378	1.09089	-0.54415	3P 8.33114	0.01301	0.77349
2S 27.30350	0.04176	-0.24490	0.12072	3P 7.52347	-0.00707	0.46381
3S 8.87017	-0.00990	-0.03442	0.58575	3P 12.98810	0.04335	-0.16622
3S 7.87213	0.00623	0.02054	0.81746			
3S 13.60560	0.00967	0.18079	-0.45617			

TABLE 27- 05

*KRYPTON K(2)L(8)3S(2)3P(4) - 3P
T.E.=-0.25180607E 04 P.E.=-0.50361340E 04 K.E.= 0.25180732E 04 V.T.=-0.19999950E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-550.44540	-99.43452	-34.74082	BASIS/ORB E	-92.68394	-32.48995
1S 36.00000	0.95823	-0.34604	0.16271	2P 15.35770	0.88380	-0.45945
1S 50.00000	0.01671	0.01995	-0.01084	2P 25.00000	0.09396	-0.03820
2S 16.31870	-0.01418	1.10412	-0.55527	3P 8.65000	0.01297	0.78435
2S 28.00000	0.04125	-0.24789	0.12355	3P 7.85000	-0.00698	0.46112
3S 9.20000	-0.01056	-0.03123	0.58196	3P 13.40240	0.03672	-0.17002
3S 8.20000	0.00670	0.01859	0.83363			
3S 14.01330	0.01006	0.16906	-0.46329			

TABLE 28- 01

*SULFUR K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.39745135E 03 P.E.=-0.79490425E 03 K.E.= 0.39745291E 03 V.T.=-0.19999959E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.01755	-9.01527	-0.88613	BASIS/ORB E	-6.69329	-0.41553
1S 15.39930	0.91388	-0.25821	0.07777	2P 6.14570	0.78731	-0.20079
1S 22.43000	0.06596	-0.01498	0.00279	2P 11.80000	0.07793	-0.02040
2S 6.87440	0.00684	0.75577	-0.23335	3P 2.48120	-0.00772	0.51228
2S 14.06930	0.02533	-0.12669	0.03699	3P 1.34320	0.00398	0.61695
3S 2.61410	0.00046	0.01075	0.64549	3P 4.60000	0.20112	-0.08263
3S 1.64830	-0.00022	-0.00253	0.47732			
3S 5.83200	-0.00208	0.39378	-0.19313			

*CHLORINE K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.45898245E 03 P.E.=-0.91800106E 03 K.E.= 0.45901860E 03 V.T.=-0.19999211E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-105.36911	-11.08591	-1.47551	BASIS/ORB E	-8.54829	-0.91062
1S 16.46650	0.91608	-0.26817	0.08674	2P 6.63777	0.80735	-0.23857
1S 23.80850	0.06052	-0.01051	0.00162	2P 12.51320	0.07319	-0.02060
2S 7.25606	0.00561	0.79534	-0.26476	3P 2.78964	-0.03732	0.55392
2S 14.76580	0.02974	-0.13116	0.04144	3P 1.66854	0.01314	0.57669
3S 2.94339	0.00040	0.00995	0.63476	3P 4.69466	0.20199	-0.09526
3S 1.97588	-0.00020	-0.00215	0.49496			
3S 6.24229	-0.00174	0.35616	-0.20590			

*ARGON K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.52522700E 03 P.E.=-0.10505085E 04 K.E.= 0.52528159E 03 V.T.=-0.19998960E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-119.74546	-13.43227	-2.19358	BASIS/ORB E	-10.67761	-1.53310
1S 17.52510	0.91899	-0.27648	0.09511	2P 7.12094	0.81602	-0.26770
1S 25.18700	0.05549	-0.00691	0.00035	2P 13.21360	0.07240	-0.02146
2S 7.66203	0.00426	0.82981	-0.29314	3P 3.09808	-0.05093	0.58134
2S 15.46240	0.03288	-0.13673	0.04575	3P 1.99388	0.01810	0.55284
3S 3.27269	0.00025	0.00881	0.62809	3P 4.98949	0.19898	-0.10484
3S 2.30347	-0.00014	-0.00165	0.51281			
3S 6.65504	-0.00122	0.32522	-0.21958			

*POTASSIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.59617212E 03 P.E.=-0.11923832E 04 K.E.= 0.59621117E 03 V.T.=-0.19999345E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-135.13908	-16.04605	-3.03380	BASIS/ORB E	-13.07344	-2.27743
1S 18.57580	0.92217	-0.28358	0.10264	2P 7.59612	0.81861	-0.29039
1S 26.56550	0.05096	-0.00396	-0.00085	2P 13.90240	0.07400	-0.02292
2S 8.08984	0.00283	0.85943	-0.31855	3P 3.40652	-0.04601	0.59377
2S 16.15890	0.03513	-0.14305	0.05010	3P 2.31922	0.01776	0.54075
3S 3.60198	0.00002	0.00729	0.62282	3P 5.45732	0.18677	-0.10830
3S 2.63105	-0.00002	-0.00100	0.53167			
3S 7.06982	-0.00058	0.30049	-0.23389			

*CALCIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.67180818E 03 P.E.=-0.13436321E 04 K.E.= 0.67182406E 03 V.T.=-0.19999763E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-151.54378	-18.92176	-3.99256	BASIS/ORB E	-15.73031	-3.14033
1S 19.61940	0.92541	-0.28976	0.10935	2P 8.06425	0.81770	-0.30798
1S 27.94400	0.04695	-0.00150	-0.00193	2P 14.58080	0.07710	-0.02496
2S 8.53704	0.00142	0.88464	-0.34116	3P 3.71496	-0.02851	0.59436
2S 16.85540	0.03670	-0.14985	0.05453	3P 2.64456	0.01271	0.53729
3S 3.93128	-0.00028	0.00536	0.61805	3P 6.07081	0.16906	-0.10719
3S 2.95864	0.00013	-0.00015	0.55138			
3S 7.48618	0.00011	0.28129	-0.24882			

TABLE 28- 02

*SCANDIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.75212875E 03 P.E.=-0.15042575E 04 K.E.= 0.75212869E 03 V.T.=-0.20000000E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-168.95567	-22.05592	-5.06772	BASIS/ORB E	-18.64475	-4.11974
1S 20.65650	0.92854	-0.29520	0.11534	2P 8.52620	0.81462	-0.32116
1S 29.32250	0.04343	0.00057	-0.00289	2P 15.25000	0.08114	-0.02758
2S 9.00120	0.00005	0.90602	-0.36126	3P 4.02340	-0.00624	0.58782
2S 17.55200	0.03778	-0.15695	0.05905	3P 2.96990	0.00456	0.53997
3S 4.26057	-0.00063	0.00301	0.61354	3P 6.80300	0.15131	-0.10482
3S 3.28622	0.00032	0.00092	0.57160			
3S 7.90370	0.00083	0.26682	-0.26434			

*TITANIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.83712975E 03 P.E.=-0.16742588E 04 K.E.= 0.83712900E 03 V.T.=-0.20000008E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-187.37251	-25.44634	-6.25793	BASIS/ORB E	-21.81469	-5.21433
1S 21.68850	0.93151	-0.30005	0.12069	2P 8.98309	0.81009	-0.33027
1S 30.70100	0.04035	0.00235	-0.00374	2P 15.91120	0.08575	-0.03081
2S 9.47976	-0.00125	0.92428	-0.37919	3P 4.33184	0.01546	0.57788
2S 18.24850	0.03851	-0.16425	0.06364	3P 3.29524	-0.00496	0.54678
3S 4.58987	-0.00103	0.00024	0.60920	3P 7.62549	0.13677	-0.10376
3S 3.61381	0.00055	0.00221	0.59205			
3S 8.32196	0.00154	0.25621	-0.28036			

*VANADIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.92680862E 03 P.E.=-0.18536308E 04 K.E.= 0.92682225E 03 V.T.=-0.19999853E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-206.79312	-29.09164	-7.56227	BASIS/ORB E	-25.23888	-6.42318
1S 22.71560	0.93432	-0.30444	0.12550	2P 9.43567	0.80438	-0.33526
1S 32.07950	0.03766	0.00389	-0.00448	2P 16.56560	0.09076	-0.03474
2S 9.97034	-0.00245	0.94004	-0.39528	3P 4.64028	0.03432	0.56659
2S 18.94500	0.03894	-0.17165	0.06828	3P 3.62058	-0.01459	0.55631
3S 4.91916	-0.00146	-0.00294	0.60509	3P 8.51204	0.12630	-0.10536
3S 3.94139	0.00079	0.00375	0.61246			
3S 8.74052	0.00220	0.24865	-0.29672			

*CHROMIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.10211634E 04 P.E.=-0.20423666E 04 K.E.= 0.10212032E 04 V.T.=-0.19999609E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-227.21682	-32.99088	-8.98010	BASIS/ORB E	-28.91649	-7.74562
1S 23.73880	0.93692	-0.30843	0.12983	2P 9.88493	0.79766	-0.33582
1S 33.45800	0.03530	0.00524	-0.00513	2P 17.21440	0.09603	-0.03953
2S 10.47050	-0.00356	0.95391	-0.40988	3P 4.94872	0.04968	0.55496
2S 19.64160	0.03917	-0.17909	0.07296	3P 3.94592	-0.02353	0.56758
3S 5.24846	-0.00191	-0.00652	0.60121	3P 9.43497	0.11973	-0.11038
3S 4.26898	0.00106	0.00553	0.63266			
3S 9.15895	0.00283	0.24340	-0.31324			

*MANGANESE K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.11201928E 04 P.E.=-0.22404581E 04 K.E.= 0.11202653E 04 V.T.=-0.19999353E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-248.64322	-37.14338	-10.51093	BASIS/ORB E	-32.84698	-9.18118
1S 24.75880	0.93934	-0.31211	0.13376	2P 10.33180	0.79007	-0.33150
1S 34.83650	0.03323	0.00646	-0.00570	2P 17.85880	0.10147	-0.04533
2S 10.97760	-0.00458	0.96646	-0.42332	3P 5.25716	0.06168	0.54330
2S 20.33810	0.03926	-0.18651	0.07765	3P 4.27126	-0.03139	0.58002
3S 5.57775	-0.00239	-0.01038	0.59762	3P 10.36700	0.11641	-0.11928
3S 4.59656	0.00134	0.00750	0.65251			
3S 9.57682	0.00342	0.23969	-0.32971			

*IRON K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.12238956E 04 P.E.=-0.24478996E 04 K.E.= 0.12240039E 04 V.T.=-0.19999115E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-271.07204	-41.54862	-12.15443	BASIS/ORB E	-37.02991	-10.72950
1S 25.77670	0.94160	-0.31554	0.13734	2P 10.77730	0.78206	-0.32195
1S 36.21500	0.03137	0.00758	-0.00622	2P 18.50000	0.10690	-0.05229
2S 11.48940	-0.00551	0.97811	-0.43585	3P 5.56560	0.07069	0.53171
2S 21.03460	0.03925	-0.19384	0.08234	3P 4.59660	-0.03801	0.59325
3S 5.90705	-0.00287	-0.01449	0.59437	3P 11.28040	0.11548	-0.13228
3S 4.92415	0.00164	0.00967	0.67190			
3S 9.99370	0.00396	0.23700	-0.34598			

*COBALT K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.13322710E 04 P.E.=-0.26646847E 04 K.E.= 0.13324136E 04 V.T.=-0.19998930E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-294.50305	-46.20622	-13.91032	BASIS/ORB E	-41.46494	-12.39030
1S 26.79270	0.94368	-0.31876	0.14063	2P 11.22220	0.77472	-0.30762
1S 37.59350	0.02970	0.00863	-0.00669	2P 19.13920	0.11200	-0.06034
2S 12.00340	-0.00638	0.98923	-0.44774	3P 5.87404	0.07707	0.52030
2S 21.73120	0.03918	-0.20103	0.08701	3P 4.92194	-0.04330	0.60694
3S 6.23634	-0.00338	-0.01872	0.59148	3P 12.14880	0.11562	-0.14898
3S 5.25173	0.00196	0.01194	0.69075			
3S 10.40920	0.00448	0.23477	-0.36186			

*NICKEL K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.14453182E 04 P.E.=-0.28908090E 04 K.E.= 0.14454909E 04 V.T.=-0.19998805E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-318.93601	-51.11582	-15.77836	BASIS/ORB E	-46.15180	-14.16333
1S 27.80810	0.94563	-0.32185	0.14366	2P 11.66750	0.77032	-0.29099
1S 38.97200	0.02817	0.00965	-0.00712	2P 19.77760	0.11612	-0.06883
2S 12.51700	-0.00721	1.00016	-0.45922	3P 6.18248	0.08083	0.50976
2S 22.42770	0.03910	-0.20800	0.09163	3P 5.24728	-0.04705	0.62040
3S 6.56564	-0.00392	-0.02294	0.58900	3P 12.94400	0.11485	-0.16755
3S 5.57932	0.00230	0.01426	0.70902			
3S 10.82280	0.00497	0.23250	-0.37718			

*COPPER K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.15630367E 04 P.E.=-0.31262577E 04 K.E.= 0.15632208E 04 V.T.=-0.19998822E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-344.37126	-56.27732	-17.75835	BASIS/ORB E	-51.09041	-16.04844
1S 28.82360	0.94746	-0.32485	0.14648	2P 12.11420	0.77200	-0.27757
1S 40.35050	0.02673	0.01068	-0.00753	2P 20.41640	0.11832	-0.07625
2S 13.02780	-0.00799	1.01112	-0.47047	3P 6.49092	0.08162	0.50191
2S 23.12420	0.03903	-0.21468	0.09617	3P 5.57262	-0.04883	0.63213
3S 6.89493	-0.00447	-0.02701	0.58689	3P 13.63900	0.11062	-0.18406
3S 5.90690	0.00266	0.01654	0.72668			
3S 11.23410	0.00545	0.22981	-0.39179			

*ZINC K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.16854262E 04 P.E.=-0.33710241E 04 K.E.= 0.16855980E 04 V.T.=-0.19998980E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-370.80857	-61.69044	-19.85009	BASIS/ORB E	-56.28057	-18.04546
1S 29.83990	0.94918	-0.32778	0.14912	2P 12.56320	0.78235	-0.27514
1S 41.72900	0.02535	0.01174	-0.00794	2P 21.05670	0.11779	-0.08038
2S 13.53340	-0.00876	1.02235	-0.48166	3P 6.79936	0.07900	0.49973
2S 23.82080	0.03902	-0.22102	0.10062	3P 5.89796	-0.04817	0.63970
3S 7.22423	-0.00508	-0.03072	0.58518	3P 14.20640	0.10098	-0.19317
3S 6.23449	0.00305	0.01864	0.74372			
3S 11.64270	0.00595	0.22629	-0.40557			

TABLE 28- 04

*GALLIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.18124860E 04 P.E.=-0.36251227E 04 K.E.= 0.18126368E 04 V.T.=-0.19999167E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-398.24740	-67.35485	-22.05340	BASIS/ORB E	-61.72191	-20.15424
1S 30.85790	0.95082	-0.33071	0.15163	2P 13.01550	0.80082	-0.28928
1S 43.10750	0.02400	0.01285	-0.00836	2P 21.69990	0.11458	-0.07952
2S 14.03120	-0.00955	1.03400	-0.49291	3P 7.10780	0.07307	0.50626
2S 24.51730	0.03909	-0.22692	0.10491	3P 6.22330	-0.04504	0.64066
3S 7.55352	-0.00574	-0.03385	0.58400	3P 14.61900	0.08630	-0.19129
3S 6.56207	0.00349	0.02045	0.76002			
3S 12.04820	0.00647	0.22161	-0.41842			

*GERMANIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.19442155E 04 P.E.=-0.38885515E 04 K.E.= 0.19443360E 04 V.T.=-0.19999380E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-426.68760	-73.27042	-24.36828	BASIS/ORB E	-67.41429	-22.37473
1S 31.87830	0.95239	-0.33364	0.15400	2P 13.47190	0.82318	-0.31880
1S 44.48600	0.02265	0.01404	-0.00879	2P 22.34710	0.10979	-0.07379
2S 14.51890	-0.01034	1.04625	-0.50441	3P 7.41624	0.06481	0.52303
2S 25.21380	0.03924	-0.23234	0.10906	3P 6.54864	-0.04007	0.63368
3S 7.88282	-0.00646	-0.03618	0.58308	3P 14.84940	0.06965	-0.17985
3S 6.88966	0.00397	0.02180	0.77579			
3S 12.45010	0.00702	0.21543	-0.43014			

*ARSENIC K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.20806144E 04 P.E.=-0.41613042E 04 K.E.= 0.20806897E 04 V.T.=-0.19999638E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-456.12849	-79.43679	-26.79468	BASIS/ORB E	-73.35732	-24.70686
1S 32.90190	0.95389	-0.33661	0.15627	2P 13.93330	0.84440	-0.35668
1S 45.86450	0.02127	0.01532	-0.00924	2P 22.99960	0.10482	-0.06507
2S 14.99400	-0.01119	1.05923	-0.51627	3P 7.72468	0.05533	0.55052
2S 25.91040	0.03952	-0.23720	0.11303	3P 6.87398	-0.03408	0.61838
3S 8.21211	-0.00729	-0.03742	0.58256	3P 14.87020	0.05470	-0.16462
3S 7.21724	0.00452	0.02251	0.79092			
3S 12.84790	0.00764	0.20744	-0.44064			

*SELENIUM K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.22216821E 04 P.E.=-0.44434033E 04 K.E.= 0.22217213E 04 V.T.=-0.19999824E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-486.57004	-85.85400	-29.33265	BASIS/ORB E	-79.55101	-27.15062
1S 33.92950	0.95536	-0.33966	0.15848	2P 14.40080	0.86152	-0.39545
1S 47.24300	0.01984	0.01673	-0.00973	2P 23.65840	0.10051	-0.05545
2S 15.45390	-0.01210	1.07310	-0.52859	3P 8.03312	0.04486	0.59122
2S 26.60690	0.03993	-0.24144	0.11677	3P 7.19932	-0.02729	0.59310
3S 8.54141	-0.00822	-0.03724	0.58236	3P 14.65420	0.04373	-0.15234
3S 7.54483	0.00514	0.02238	0.80548			
3S 13.24140	0.00833	0.19727	-0.44980			

*BROMINE K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.23674180E 04 P.E.=-0.47348564E 04 K.E.= 0.23674385E 04 V.T.=-0.19999913E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-518.01180	-92.52182	-31.98216	BASIS/ORB E	-85.99516	-29.70592
1S 34.96200	0.95680	-0.34280	0.16061	2P 14.87530	0.87428	-0.43095
1S 48.62150	0.01832	0.01826	-0.01026	2P 24.32480	0.09698	-0.04612
2S 15.89630	-0.01309	1.08800	-0.54156	3P 8.34156	0.03214	0.65319
2S 27.30350	0.04051	-0.24502	0.12029	3P 7.52466	-0.01895	0.55252
3S 8.87070	-0.00930	-0.03532	0.58229	3P 14.17400	0.03742	-0.14902
3S 7.87241	0.00586	0.02116	0.81960			
3S 13.63000	0.00913	0.18460	-0.45740			

TABLE 28- 05

*KRYPTON K(2)L(8)3S(2)3P(4) - 1D
T.E.=-0.25178217E 04 P.E.=-0.50356551E 04 K.E.= 0.25178333E 04 V.T.=-0.19999953E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-550.45377	-99.44029	-34.74323	BASIS/ORB E	-92.68978	-32.37271
1S 36.00000	0.95822	-0.34604	0.16270	2P 15.35770	0.88359	-0.46208
1S 50.00000	0.01672	0.01995	-0.01083	2P 25.00000	0.09395	-0.03744
2S 16.31870	-0.01419	1.10415	-0.55534	3P 8.65000	0.01331	0.75814
2S 28.00000	0.04126	-0.24790	0.12358	3P 7.85000	-0.00673	0.48314
3S 9.20000	-0.01057	-0.03125	0.58223	3P 13.40240	0.03662	-0.16376
3S 8.20000	0.00671	0.01861	0.83337			
3S 14.01330	0.01006	0.16904	-0.46325			

TABLE 29- 01

*SULFUR K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.39737368E 03 P.E.=-0.79476310E 03 K.E.= 0.39738940E 03 V.T.=-0.19999603E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.03238	-9.02953	-0.89366	BASIS/ORB E	-6.70750	-0.38186
1S 15.49060	0.91082	-0.25326	0.07666	2P 7.04300	0.65875	-0.16464
1S 22.43000	0.06305	-0.01657	0.00314	2P 13.00000	0.03919	-0.01141
2S 6.95260	0.00584	0.74537	-0.23021	3P 2.55540	0.00987	0.45884
2S 14.06930	0.03278	-0.13390	0.03902	3P 1.36030	0.00109	0.66355
3S 2.60820	0.00031	0.00914	0.65597	3P 5.37790	0.37018	-0.12372
3S 1.64200	-0.00015	-0.00178	0.46739			
3S 5.84330	-0.00151	0.40973	-0.19871			

*CHLORINE K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.45888890E 03 P.E.=-0.91777731E 03 K.E.= 0.45888840E 03 V.T.=-0.20000010E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-105.38867	-11.10051	-1.48284	BASIS/ORB E	-8.56324	-0.86861
1S 16.51700	0.91490	-0.26263	0.08530	2P 7.31624	0.69874	-0.20271
1S 23.80850	0.05876	-0.01309	0.00231	2P 13.41000	0.04784	-0.01433
2S 7.35453	0.00492	0.78329	-0.26062	3P 2.86013	0.00327	0.48412
2S 14.76580	0.03349	-0.13901	0.04379	3P 1.68479	0.00323	0.63037
3S 2.93779	0.00027	0.00663	0.64493	3P 5.67566	0.31805	-0.12287
3S 1.97034	-0.00014	-0.00058	0.48568			
3S 6.24600	-0.00130	0.37603	-0.21318			

*ARGON K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.52511799E 03 P.E.=-0.10502340E 04 K.E.= 0.52511597E 03 V.T.=-0.20000038E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-119.76581	-13.44614	-2.20027	BASIS/ORB E	-10.69200	-1.48281
1S 17.54340	0.91872	-0.27130	0.09354	2P 7.60448	0.73246	-0.23683
1S 25.18700	0.05480	-0.00976	0.00124	2P 13.84000	0.05676	-0.01756
2S 7.76344	0.00393	0.81799	-0.28900	3P 3.16486	-0.00042	0.50219
2S 15.46240	0.03412	-0.14406	0.04818	3P 2.00927	0.00431	0.61034
3S 3.26738	0.00018	0.00427	0.63810	3P 5.98431	0.27085	-0.11887
3S 2.29863	-0.00010	0.00053	0.50403			
3S 6.64931	-0.00098	0.34568	-0.22736			

*POTASSIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.59604706E 03 P.E.=-0.11920925E 04 K.E.= 0.59604555E 03 V.T.=-0.20000024E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-135.15760	-16.05871	-3.03982	BASIS/ORB E	-13.08648	-2.21911
1S 18.56960	0.92230	-0.27926	0.10111	2P 7.90772	0.76095	-0.26736
1S 26.56550	0.05116	-0.00665	0.00013	2P 14.29000	0.06554	-0.02093
2S 8.17934	0.00288	0.84977	-0.31542	3P 3.46959	-0.00157	0.51569
2S 16.15890	0.03469	-0.14914	0.05243	3P 2.33376	0.00443	0.59842
3S 3.59697	0.00003	0.00212	0.63278	3P 6.30384	0.22822	-0.11333
3S 2.62687	-0.00003	0.00152	0.52326			
3S 7.05323	-0.00057	0.31841	-0.24091			

*CALCIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.67166732E 03 P.E.=-0.13433336E 04 K.E.= 0.67166639E 03 V.T.=-0.20000013E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-151.55983	-18.93331	-3.99797	BASIS/ORB E	-15.74200	-3.07421
1S 19.59580	0.92563	-0.28652	0.10796	2P 8.22596	0.78499	-0.29465
1S 27.94400	0.04781	-0.00377	-0.00095	2P 14.76000	0.07387	-0.02428
2S 8.60222	0.00177	0.87886	-0.33998	3P 3.77432	-0.00067	0.52636
2S 16.85540	0.03522	-0.15429	0.05662	3P 2.65824	0.00375	0.59148
3S 3.92656	-0.00019	0.00020	0.62796	3P 6.63427	0.18997	-0.10733
3S 2.95507	0.00009	0.00239	0.54330			
3S 7.45776	-0.00008	0.29397	-0.25388			

*SCANDIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.75197304E 03 P.E.=-0.15039451E 04 K.E.= 0.75197218E 03 V.T.=-0.20000010E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-168.96978	-22.06672	-5.07259	BASIS/ORB E	-18.65555	-4.04603
1S 20.62180	0.92875	-0.29315	0.11414	2P 8.55920	0.80523	-0.31904
1S 29.32250	0.04471	-0.00113	-0.00198	2P 15.25000	0.08155	-0.02748
2S 9.03210	0.00065	0.90543	-0.36280	3P 4.07905	0.00174	0.53537
2S 17.55200	0.03571	-0.15955	0.06080	3P 2.98273	0.00245	0.58756
3S 4.25615	-0.00047	-0.00149	0.62333	3P 6.97560	0.15597	-0.10159
3S 3.28322	0.00023	0.00313	0.56388			
3S 7.86290	0.00047	0.27219	-0.26645			

*TITANIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.83696021E 03 P.E.=-0.16739192E 04 K.E.= 0.83695900E 03 V.T.=-0.20000013E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-187.38562	-25.45681	-6.26229	BASIS/ORB E	-21.82512	-5.13319
1S 21.64770	0.93167	-0.29921	0.11974	2P 8.90744	0.82221	-0.34080
1S 30.70100	0.04184	0.00131	-0.00294	2P 15.76000	0.08843	-0.03045
2S 9.46896	-0.00049	0.92967	-0.38396	3P 4.38378	0.00512	0.54359
2S 18.24850	0.03617	-0.16488	0.06497	3P 3.30721	0.00072	0.58536
3S 4.58574	-0.00081	-0.00299	0.61878	3P 7.32781	0.12611	-0.09663
3S 3.61132	0.00042	0.00378	0.58470			
3S 8.26865	0.00107	0.25290	-0.27877			

*VANADIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.92662589E 03 P.E.=-0.18532494E 04 K.E.= 0.92662362E 03 V.T.=-0.20000023E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-206.80608	-29.10209	-7.56616	BASIS/ORB E	-25.24935	-6.33474
1S 22.67350	0.93440	-0.30474	0.12481	2P 9.27068	0.83639	-0.36019
1S 32.07950	0.03917	0.00355	-0.00384	2P 16.29000	0.09443	-0.03311
2S 9.91281	-0.00162	0.95174	-0.40357	3P 4.68851	0.00903	0.55162
2S 18.94510	0.03661	-0.17031	0.06914	3P 3.63170	-0.00129	0.58403
3S 4.91533	-0.00121	-0.00431	0.61431	3P 7.69091	0.10026	-0.09278
3S 3.93938	0.00065	0.00434	0.60556			
3S 8.67501	0.00171	0.23592	-0.29097			

*CHROMIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.10209680E 04 P.E.=-0.20419338E 04 K.E.= 0.10209657E 04 V.T.=-0.20000021E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-227.23022	-33.00147	-8.98354	BASIS/ORB E	-28.92724	-7.65001
1S 23.69930	0.93696	-0.30980	0.12942	2P 9.64891	0.84816	-0.37743
1S 33.45800	0.03669	0.00560	-0.00467	2P 16.84000	0.09948	-0.03542
2S 10.36360	-0.00275	0.97182	-0.42172	3P 4.99324	0.01308	0.55988
2S 19.64160	0.03704	-0.17582	0.07332	3P 3.95618	-0.00343	0.58296
3S 5.24492	-0.00167	-0.00552	0.60993	3P 8.06491	0.07826	-0.09021
3S 4.26740	0.00091	0.00485	0.62628			
3S 9.08199	0.00238	0.22111	-0.30316			

*MANGANESE K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.11199848E 04 P.E.=-0.22399671E 04 K.E.= 0.11199824E 04 V.T.=-0.20000021E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-248.65740	-37.15420	-10.51395	BASIS/ORB E	-32.85810	-9.07849
1S 24.72490	0.93935	-0.31443	0.13363	2P 10.04210	0.85786	-0.39269
1S 34.83650	0.03439	0.00748	-0.00544	2P 17.41000	0.10357	-0.03735
2S 10.82150	-0.00387	0.99000	-0.43849	3P 5.29797	0.01696	0.56867
2S 20.33810	0.03744	-0.18141	0.07750	3P 4.28067	-0.00557	0.58175
3S 5.57451	-0.00219	-0.00668	0.60574	3P 8.44980	0.05992	-0.08904
3S 4.59536	0.00122	0.00534	0.64669			
3S 9.48957	0.00307	0.20836	-0.31545			

TABLE 29- 03

*IRON K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.12236751E 04 P.E.=-0.24473479E 04 K.E.= 0.12236728E 04 V.T.=-0.20000018E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-271.08711	-41.55966	-12.15705	BASIS/ORB E	-37.04138	-10.61981
1S 25.75040	0.94161	-0.31868	0.13748	2P 10.45040	0.86576	-0.40615
1S 36.21500	0.03224	0.00920	-0.00616	2P 18.00000	0.10668	-0.03888
2S 11.28630	-0.00496	1.00649	-0.45397	3P 5.60270	0.02043	0.57821
2S 21.03470	0.03783	-0.18707	0.08167	3P 4.60515	-0.00760	0.58007
3S 5.90410	-0.00276	-0.00782	0.60176	3P 8.84558	0.04505	-0.08932
3S 4.92329	0.00156	0.00582	0.66670			
3S 9.89776	0.00376	0.19748	-0.32788			

*COBALT K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.13320378E 04 P.E.=-0.26640739E 04 K.E.= 0.13320360E 04 V.T.=-0.20000013E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-294.51900	-46.21741	-13.91257	BASIS/ORB E	-41.47668	-12.27369
1S 26.77580	0.94373	-0.32259	0.14101	2P 10.87360	0.87214	-0.41797
1S 37.59350	0.03022	0.01079	-0.00683	2P 18.61000	0.10884	-0.04002
2S 11.75810	-0.00603	1.02139	-0.46825	3P 5.90743	0.02335	0.58856
2S 21.73120	0.03821	-0.19280	0.08584	3P 4.92964	-0.00943	0.57776
3S 6.23369	-0.00338	-0.00902	0.59804	3P 9.25225	0.03339	-0.09097
3S 5.25116	0.00194	0.00635	0.68623			
3S 10.30660	0.00445	0.18839	-0.34048			

*NICKEL K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.14450721E 04 P.E.=-0.28901436E 04 K.E.= 0.14450715E 04 V.T.=-0.20000004E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-318.95263	-51.12708	-15.78028	BASIS/ORB E	-46.16365	-14.03989
1S 27.80110	0.94572	-0.32617	0.14425	2P 11.31190	0.87716	-0.42824
1S 38.97200	0.02833	0.01223	-0.00744	2P 19.24000	0.11008	-0.04078
2S 12.23690	-0.00707	1.03484	-0.48142	3P 6.21216	0.02554	0.59987
2S 22.42770	0.03858	-0.19860	0.09001	3P 5.25412	-0.01097	0.57462
3S 6.56328	-0.00405	-0.01033	0.59461	3P 9.66981	0.02474	-0.09400
3S 5.57900	0.00236	0.00696	0.70523			
3S 10.71600	0.00515	0.18096	-0.35328			

*COPPER K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.15627775E 04 P.E.=-0.31255575E 04 K.E.= 0.15627801E 04 V.T.=-0.19999982E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-344.38799	-56.28843	-17.76005	BASIS/ORB E	-51.10211	-15.91824
1S 28.82640	0.94761	-0.32946	0.14724	2P 11.76510	0.88103	-0.43711
1S 40.35050	0.02655	0.01355	-0.00801	2P 19.89000	0.11044	-0.04117
2S 12.72260	-0.00807	1.04699	-0.49355	3P 6.51689	0.02699	0.61202
2S 23.12430	0.03894	-0.20448	0.09418	3P 5.57861	-0.01216	0.57064
3S 6.89287	-0.00475	-0.01180	0.59158	3P 10.09830	0.01882	-0.09824
3S 5.90678	0.00280	0.00766	0.72359			
3S 11.12600	0.00582	0.17506	-0.36631			

*ZINC K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.16851532E 04 P.E.=-0.33703063E 04 K.E.= 0.16851532E 04 V.T.=-0.20000000E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-370.82467	-61.70117	-19.85171	BASIS/ORB E	-56.29179	-17.90859
1S 29.85150	0.94938	-0.33249	0.14999	2P 12.23330	0.88386	-0.44465
1S 41.72900	0.02489	0.01476	-0.00853	2P 20.56000	0.10998	-0.04122
2S 13.21540	-0.00905	1.05791	-0.50471	3P 6.82162	0.02762	0.62510
2S 23.82080	0.03929	-0.21042	0.09835	3P 5.90309	-0.01294	0.56569
3S 7.22246	-0.00550	-0.01351	0.58892	3P 10.53760	0.01542	-0.10365
3S 6.23452	0.00329	0.00853	0.74133			
3S 11.53670	0.00649	0.17063	-0.37955			

*GALLIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.18121987E 04 P.E.=-0.36243992E 04 K.E.= 0.18122005E 04 V.T.=-0.19999989E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-398.26266	-67.36518	-22.05519	BASIS/ORB E	-61.73258	-20.01083
1S 30.87650	0.95106	-0.33526	0.15254	2P 12.71660	0.88574	-0.45093
1S 43.10750	0.02333	0.01585	-0.00900	2P 21.25000	0.10877	-0.04097
2S 13.71510	-0.01000	1.06779	-0.51501	3P 7.12635	0.02739	0.63906
2S 24.51730	0.03964	-0.21646	0.10254	3P 6.22758	-0.01323	0.55975
3S 7.55205	-0.00629	-0.01545	0.58665	3P 10.98780	0.01434	-0.11013
3S 6.56222	0.00380	0.00954	0.75841			
3S 11.94790	0.00715	0.16749	-0.39300			

*GERMANIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.19439138E 04 P.E.=-0.38878243E 04 K.E.= 0.19439105E 04 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-426.70185	-73.28029	-24.37036	BASIS/ORB E	-67.42435	-22.22487
1S 31.90140	0.95266	-0.33782	0.15489	2P 13.21480	0.88678	-0.45605
1S 44.48600	0.02185	0.01685	-0.00944	2P 21.96000	0.10688	-0.04044
2S 14.22190	-0.01090	1.07662	-0.52447	3P 7.43108	0.02631	0.65381
2S 25.21390	0.03996	-0.22255	0.10672	3P 6.55206	-0.01302	0.55283
3S 7.88164	-0.00710	-0.01781	0.58484	3P 11.44900	0.01533	-0.11754
3S 6.88986	0.00433	0.01082	0.77479			
3S 12.35980	0.00777	0.16567	-0.40667			

*ARSENIC K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.20802982E 04 P.E.=-0.41606034E 04 K.E.= 0.20803051E 04 V.T.=-0.19999967E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-456.14163	-79.44625	-26.79717	BASIS/ORB E	-73.36682	-24.55058
1S 32.92620	0.95416	-0.34015	0.15706	2P 13.72800	0.88702	-0.46007
1S 45.86450	0.02046	0.01775	-0.00983	2P 22.69000	0.10437	-0.03967
2S 14.73560	-0.01177	1.08463	-0.53321	3P 7.73581	0.02440	0.66923
2S 25.91040	0.04029	-0.22876	0.11093	3P 6.87655	-0.01226	0.54498
3S 8.21123	-0.00794	-0.02046	0.58349	3P 11.92100	0.01821	-0.12576
3S 7.21747	0.00490	0.01229	0.79047			
3S 12.77220	0.00839	0.16494	-0.42052			

*SELENIUM K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.22213514E 04 P.E.=-0.44427046E 04 K.E.= 0.22213531E 04 V.T.=-0.19999991E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-486.58257	-85.86313	-29.33556	BASIS/ORB E	-79.56013	-26.98795
1S 33.95090	0.95559	-0.34230	0.15909	2P 14.25620	0.88650	-0.46304
1S 47.24300	0.01914	0.01857	-0.01020	2P 23.44000	0.10132	-0.03870
2S 15.25630	-0.01261	1.09182	-0.54122	3P 8.04054	0.02168	0.68525
2S 26.60690	0.04062	-0.23503	0.11514	3P 7.20103	-0.01091	0.53623
3S 8.54082	-0.00880	-0.02360	0.58275	3P 12.40390	0.02280	-0.13469
3S 7.54502	0.00548	0.01409	0.80534			
3S 13.18530	0.00897	0.16533	-0.43460			

*BROMINE K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.23670734E 04 P.E.=-0.47341438E 04 K.E.= 0.23670702E 04 V.T.=-0.20000013E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-518.02422	-92.53072	-31.98546	BASIS/ORB E	-86.00404	-29.53688
1S 34.97550	0.95695	-0.34426	0.16096	2P 14.79950	0.88524	-0.46500
1S 48.62150	0.01789	0.01930	-0.01053	2P 24.21000	0.09782	-0.03757
2S 15.78400	-0.01341	1.09831	-0.54860	3P 8.34527	0.01812	0.70188
2S 27.30350	0.04093	-0.24142	0.11936	3P 7.52552	-0.00893	0.52654
3S 8.87041	-0.00966	-0.02721	0.58247	3P 12.89770	0.02896	-0.14429
3S 7.87253	0.00608	0.01620	0.81950			
3S 13.59900	0.00952	0.16672	-0.44885			

TABLE 29- 05

*KRYPTON K(2)L(8)3S(2)3P(4) - 1S
T.E.=-0.25174639E 04 P.E.=-0.50349393E 04 K.E.= 0.25174753E 04 V.T.=-0.19999955E 01

S	1S	2S	3S
BASIS/ORB E	-550.46631	-99.44892	-34.74683
1S 36.00000	0.95823	-0.34605	0.16270
1S 50.00000	0.01671	0.01995	-0.01082
2S 16.31870	-0.01419	1.10419	-0.55544
2S 28.00000	0.04126	-0.24791	0.12362
3S 9.20000	-0.01057	-0.03132	0.58264
3S 8.20000	0.00671	0.01866	0.83298
3S 14.01330	0.01007	0.16903	-0.46321

P	2P	3P
BASIS/ORB E	-92.69847	-32.19733
2P 15.35770	0.88328	-0.46603
2P 25.00000	0.09392	-0.03631
3P 8.65000	0.01378	0.71885
3P 7.85000	-0.00632	0.51612
3P 13.40240	0.03649	-0.15437

TABLE 30- 01

*CHLORINE K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.45948179E 03 P.E.=-0.91896489E 03 K.E.= 0.45948309E 03 V.T.=-0.19999971E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-104.88433	-10.60740	-1.07293	BASIS/ORB E	-8.07212	-0.50638
1S 17.36240	0.90966	-0.25186	0.07682	2P 7.68000	0.65569	-0.17972
1S 28.02000	0.01644	-0.00620	0.00155	2P 14.19530	0.03389	-0.00854
2S 6.77960	0.00460	0.89026	-0.29086	3P 2.62310	0.01031	0.57105
2S 15.59950	0.08898	-0.13882	0.04414	3P 1.45880	-0.00084	0.54233
3S 2.97330	0.00030	0.00959	0.62296	3P 5.92230	0.37623	-0.11524
3S 1.85870	-0.00014	-0.00159	0.51991			
3S 6.00000	-0.00161	0.23475	-0.16296			

*ARGON K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.52627429E 03 P.E.=-0.10525446E 04 K.E.= 0.52627032E 03 V.T.=-0.20000074E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-119.13480	-12.83734	-1.71237	BASIS/ORB E	-10.08488	-1.04631
1S 18.40960	0.91372	-0.25828	0.08342	2P 7.95721	0.68590	-0.20887
1S 29.17680	0.01433	-0.00476	0.00137	2P 14.32750	0.04477	-0.01281
2S 7.26095	0.00182	0.90227	-0.31478	3P 2.97776	0.00765	0.57512
2S 16.30540	0.08804	-0.14481	0.04959	3P 1.79359	0.00022	0.53409
3S 3.29313	-0.00025	0.01018	0.61021	3P 6.27754	0.32999	-0.12062
3S 2.18456	0.00010	-0.00173	0.53663			
3S 6.46689	0.00005	0.22828	-0.17728			

*POTASSIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.59789129E 03 P.E.=-0.11957783E 04 K.E.= 0.59788707E 03 V.T.=-0.20000070E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-134.40544	-15.34140	-2.47889	BASIS/ORB E	-12.37013	-1.71234
1S 19.42180	0.91869	-0.26496	0.09006	2P 8.26991	0.70849	-0.23419
1S 30.33370	0.01296	-0.00331	0.00096	2P 14.56720	0.05534	-0.01716
2S 7.74018	-0.00054	0.91540	-0.33668	3P 3.32126	0.00639	0.57720
2S 16.99820	0.08496	-0.15004	0.05431	3P 2.12554	0.00068	0.53262
3S 3.61295	-0.00082	0.01042	0.60161	3P 6.65753	0.29186	-0.12358
3S 2.51042	0.00036	-0.00182	0.55314			
3S 6.92684	0.00148	0.22090	-0.19212			

*CALCIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.67431965E 03 P.E.=-0.13486356E 04 K.E.= 0.67431603E 03 V.T.=-0.20000052E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-150.68992	-18.11196	-3.36694	BASIS/ORB E	-14.92061	-2.49961
1S 20.40370	0.92395	-0.27170	0.09653	2P 8.61498	0.72539	-0.25618
1S 31.49050	0.01236	-0.00191	0.00045	2P 14.90380	0.06485	-0.02128
2S 8.21801	-0.00239	0.92923	-0.35685	3P 3.65468	0.00602	0.57914
2S 17.67920	0.08040	-0.15471	0.05850	3P 2.45491	0.00077	0.53368
3S 3.93278	-0.00133	0.01038	0.59488	3P 7.06031	0.26085	-0.12533
3S 2.83627	0.00062	-0.00185	0.57010			
3S 7.38035	0.00261	0.21300	-0.20680			

*SCANDIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.75555108E 03 P.E.=-0.15110990E 04 K.E.= 0.75554794E 03 V.T.=-0.20000041E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-167.98442	-21.14439	-4.37335	BASIS/ORB E	-17.73192	-3.40523
1S 21.36020	0.92912	-0.27840	0.10273	2P 8.98932	0.73824	-0.27530
1S 32.64740	0.01250	-0.00058	-0.00011	2P 15.32700	0.07281	-0.02492
2S 8.69522	-0.00371	0.94340	-0.37555	3P 3.97911	0.00619	0.58189
2S 18.34960	0.07483	-0.15898	0.06230	3P 2.78199	0.00063	0.53511
3S 4.25260	-0.00176	0.01010	0.58915	3P 7.48390	0.23591	-0.12665
3S 3.16213	0.00086	-0.00183	0.58745			
3S 7.82790	0.00340	0.20491	-0.22110			

*TITANIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.[illegible]157983E 03 P.E.=-0.16831568E 04 K.E.= 0.84157697E 03 V.T.=-0.20000034E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-186.28646	-24.43570	-5.49618	BASIS/ORB E	-20.80126	-4.42734
1S 22.29620	0.93394	-0.28496	0.10864	2P 9.38980	0.74831	-0.29202
1S 33.80420	0.01329	0.00068	-0.00070	2P 15.82630	0.07895	-0.02795
2S 9.17250	-0.00451	0.95764	-0.39301	3P 4.29565	0.00672	0.58600
2S 19.01050	0.06864	-0.16299	0.06584	3P 3.10703	0.00032	0.53575
3S 4.57243	-0.00207	0.00963	0.58409	3P 7.92630	0.21599	-0.12801
3S 3.48799	0.00104	-0.00175	0.60502			
3S 8.27000	0.00385	0.19687	-0.23497			

*VANADIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.93240198E 03 P.E.=-0.18648015E 04 K.E.= 0.93239947E 03 V.T.=-0.20000026E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-205.59436	-27.98383	-6.73413	BASIS/ORB E	-24.12672	-5.56468
1S 23.21690	0.93826	-0.29130	0.11421	2P 9.81333	0.75651	-0.30670
1S 34.96100	0.01462	0.00185	-0.00128	2P 16.39150	0.08327	-0.03030
2S 9.65078	-0.00483	0.97169	-0.40936	3P 4.60530	0.00752	0.59174
2S 19.66370	0.06216	-0.16687	0.06919	3P 3.43035	-0.00014	0.53500
3S 4.89226	-0.00225	0.00899	0.57959	3P 8.38567	0.20019	-0.12968
3S 3.81385	0.00115	-0.00162	0.62258			
3S 8.70707	0.00399	0.18915	-0.24847			

*CHROMIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.10280146E 04 P.E.=-0.20560248E 04 K.E.= 0.10280102E 04 V.T.=-0.20000041E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-225.90698	-31.78737	-8.08632	BASIS/ORB E	-27.70703	-6.81639
1S 24.12680	0.94204	-0.29741	0.11947	2P 10.25680	0.76343	-0.31962
1S 36.11790	0.01635	0.00296	-0.00184	2P 17.01210	0.08593	-0.03201
2S 10.13070	-0.00475	0.98538	-0.42472	3P 4.90922	0.00856	0.59927
2S 20.31000	0.05564	-0.17069	0.07244	3P 3.75219	-0.00076	0.53254
3S 5.21208	-0.00229	0.00820	0.57564	3P 8.85992	0.18771	-0.13180
3S 4.13971	0.00120	-0.00142	0.63993			
3S 9.13966	0.00385	0.18192	-0.26167			

*MANGANESE K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.11284152E 04 P.E.=-0.22568282E 04 K.E.= 0.11284129E 04 V.T.=-0.20000020E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-247.22334	-35.84520	-9.55208	BASIS/ORB E	-31.54113	-8.18180
1S 25.03100	0.94523	-0.30322	0.12441	2P 10.71710	0.76939	-0.33100
1S 37.27470	0.01836	0.00402	-0.00239	2P 17.67780	0.08720	-0.03318
2S 10.61300	-0.00436	0.99858	-0.43919	3P 5.20846	0.00980	0.60864
2S 20.95080	0.04933	-0.17457	0.07564	3P 4.07284	-0.00154	0.52826
3S 5.53191	-0.00221	0.00730	0.57223	3P 9.34713	0.17788	-0.13443
3S 4.46556	0.00118	-0.00116	0.65695			
3S 9.56825	0.00351	0.17531	-0.27465			

*IRON K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.12336025E 04 P.E.=-0.24672031E 04 K.E.= 0.12336005E 04 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-269.54286	-40.15660	-11.13097	BASIS/ORB E	-35.62838	-9.66046
1S 25.93440	0.94786	-0.30873	0.12904	2P 11.19100	0.77460	-0.34099
1S 38.43160	0.02048	0.00505	-0.00293	2P 18.37810	0.08743	-0.03392
2S 11.09840	-0.00377	1.01118	-0.45282	3P 5.50410	0.01122	0.61975
2S 21.58740	0.04343	-0.17858	0.07887	3P 4.39256	-0.00248	0.52220
3S 5.85174	-0.00202	0.00628	0.56938	3P 9.84534	0.17013	-0.13755
3S 4.79142	0.00109	-0.00084	0.67350			
3S 9.99330	0.00303	0.16942	-0.28750			

TABLE 30- 03

*COBALT K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.13435750E 04 P.E.=-0.26871460E 04 K.E.= 0.13435709E 04 V.T.=-0.20000029E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-292.86506	-44.72097	-12.82262	BASIS/ORB E	-39.96824	-11.25198
1S 26.84190	0.94993	-0.31391	0.13335	2P 11.67560	0.77912	-0.34972
1S 39.58840	0.02258	0.00608	-0.00346	2P 19.10260	0.08694	-0.03438
2S 11.58790	-0.00310	1.02309	-0.46565	3P 5.79721	0.01277	0.63244
2S 22.22110	0.03814	-0.18284	0.08218	3P 4.71166	-0.00356	0.51451
3S 6.17156	-0.00177	0.00512	0.56712	3P 10.35260	0.16402	-0.14115
3S 5.11728	0.00097	-0.00044	0.68950			
3S 10.41530	0.00250	0.16442	-0.30031			

*NICKEL K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.14583315E 04 P.E.=-0.29166619E 04 K.E.= 0.14583305E 04 V.T.=-0.20000006E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-317.18942	-49.53779	-14.62675	BASIS/ORB E	-44.56025	-12.95608
1S 27.75820	0.95152	-0.31876	0.13738	2P 12.16760	0.78304	-0.35730
1S 40.74530	0.02453	0.00713	-0.00400	2P 19.84090	0.08608	-0.03469
2S 12.08200	-0.00247	1.03429	-0.47772	3P 6.08891	0.01440	0.64648
2S 22.85290	0.03362	-0.18741	0.08561	3P 5.03037	-0.00474	0.50545
3S 6.49139	-0.00150	0.00383	0.56551	3P 10.86690	0.15913	-0.14516
3S 5.44314	0.00083	0.00004	0.70485			
3S 10.83480	0.00199	0.16032	-0.31318			

*COPPER K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.15778711E 04 P.E.=-0.31557415E 04 K.E.= 0.15778702E 04 V.T.=-0.20000004E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-342.51573	-54.60673	-16.54315	BASIS/ORB E	-49.40411	-14.77254
1S 28.68840	0.95267	-0.32327	0.14111	2P 12.66410	0.78642	-0.36386
1S 41.90210	0.02617	0.00823	-0.00455	2P 20.58280	0.08509	-0.03497
2S 12.58150	-0.00200	1.04475	-0.48907	3P 6.38023	0.01605	0.66149
2S 23.48440	0.03005	-0.19238	0.08921	3P 5.34899	-0.00600	0.49542
3S 6.81121	-0.00128	0.00235	0.56448	3P 11.38630	0.15510	-0.14950
3S 5.76900	0.00072	0.00065	0.71956			
3S 11.25220	0.00161	0.15720	-0.32611			

*ZINC K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.17021932E 04 P.E.=-0.34043875E 04 K.E.= 0.17021941E 04 V.T.=-0.19999994E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-368.84366	-59.92747	-18.57164	BASIS/ORB E	-54.49952	-16.70118
1S 29.63740	0.95346	-0.32742	0.14457	2P 13.16170	0.78935	-0.36952
1S 43.05890	0.02738	0.00941	-0.00514	2P 21.31770	0.08423	-0.03532
2S 13.08730	-0.00186	1.05447	-0.49972	3P 6.67226	0.01766	0.67695
2S 24.11680	0.02757	-0.19785	0.09303	3P 5.66780	-0.00729	0.48493
3S 7.13104	-0.00120	0.00069	0.56413	3P 11.90880	0.15156	-0.15404
3S 6.09485	0.00068	0.00137	0.73352			
3S 11.66800	0.00145	0.15511	-0.33921			

*GALLIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.18312973E 04 P.E.=-0.36625970E 04 K.E.= 0.18312997E 04 V.T.=-0.19999985E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-396.17300	-65.49976	-20.71209	BASIS/ORB E	-59.84629	-18.74184
1S 30.61010	0.95401	-0.33125	0.14777	2P 13.65760	0.79189	-0.37438
1S 44.21580	0.02801	0.01071	-0.00577	2P 22.03530	0.08370	-0.03585
2S 13.60010	-0.00214	1.06345	-0.50969	3P 6.96610	0.01914	0.69231
2S 24.75130	0.02630	-0.20387	0.09711	3P 5.98707	-0.00853	0.47462
3S 7.45087	-0.00134	-0.00123	0.56441	3P 12.43250	0.14824	-0.15874
3S 6.42071	0.00077	0.00226	0.74677			
3S 12.08270	0.00158	0.15409	-0.35251			

TABLE 30- 04

*GERMANIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.19651826E 04 P.E.=-0.39303698E 04 K.E.= 0.19651873E 04 V.T.=-0.19999976E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-424.50358	-71.32342	-22.96438	BASIS/ORB E	-65.44424	-20.89441
1S 31.61140	0.95439	-0.33476	0.15072	2P 14.14840	0.79415	-0.37856
1S 45.37260	0.02792	0.01217	-0.00647	2P 22.72520	0.08367	-0.03664
2S 14.12060	-0.00300	1.07175	-0.51902	3P 7.26281	0.02039	0.70676
2S 25.38920	0.02637	-0.21053	0.10148	3P 6.30708	-0.00963	0.46530
3S 7.77069	-0.00182	-0.00341	0.56528	3P 12.95550	0.14484	-0.16346
3S 6.74657	0.00108	0.00332	0.75929			
3S 12.49680	0.00212	0.15414	-0.36603			

*ARSENIC K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.21038490E 04 P.E.=-0.42077056E 04 K.E.= 0.21038566E 04 V.T.=-0.19999964E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-453.83525	-77.39826	-25.32842	BASIS/ORB E	-71.29321	-23.15878
1S 32.64610	0.95479	-0.33798	0.15346	2P 14.63120	0.79618	-0.38213
1S 46.52950	0.02694	0.01382	-0.00726	2P 23.37700	0.08432	-0.03779
2S 14.64960	-0.00453	1.07938	-0.52768	3P 7.56348	0.02126	0.71950
2S 26.03170	0.02785	-0.21789	0.10615	3P 6.62810	-0.01048	0.45782
3S 8.09052	-0.00274	-0.00595	0.56688	3P 13.47560	0.14114	-0.16816
3S 7.07243	0.00167	0.00463	0.77096			
3S 12.91080	0.00312	0.15529	-0.37986			

*SELENIUM K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.22472960E 04 P.E.=-0.44946028E 04 K.E.= 0.22473069E 04 V.T.=-0.19999950E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-484.16788	-83.72418	-27.80412	BASIS/ORB E	-77.39311	-25.53488
1S 33.71920	0.95537	-0.34095	0.15599	2P 15.10280	0.79801	-0.38516
1S 47.68630	0.02490	0.01571	-0.00817	2P 23.98040	0.08581	-0.03938
2S 15.18790	-0.00683	1.08641	-0.53576	3P 7.86918	0.02162	0.72954
2S 26.68020	0.03082	-0.22600	0.11118	3P 6.95041	-0.01095	0.45322
3S 8.41035	-0.00422	-0.00886	0.56898	3P 13.99110	0.13692	-0.17274
3S 7.39828	0.00262	0.00618	0.78196			
3S 13.32510	0.00465	0.15754	-0.39393			

*BROMINE K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.23955232E 04 P.E.=-0.47910613E 04 K.E.= 0.23955382E 04 V.T.=-0.19999936E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-515.50130	-90.30101	-30.39142	BASIS/ORB E	-83.74380	-28.02261
1S 34.83550	0.95631	-0.34374	0.15838	2P 15.56010	0.79958	-0.38762
1S 48.84310	0.02163	0.01791	-0.00922	2P 24.52480	0.08836	-0.04155
2S 15.73620	-0.01003	1.09282	-0.54320	3P 8.18099	0.02122	0.73603
2S 27.33590	0.03536	-0.23488	0.11654	3P 7.27429	-0.01085	0.45243
3S 8.73017	-0.00641	-0.01230	0.57178	3P 14.49990	0.13205	-0.17724
3S 7.72414	0.00405	0.00811	0.79212			
3S 13.74030	0.00679	0.16095	-0.40836			

*KRYPTON K(2)L(8)3S(2)3P(5) - 2P
T.E.=-0.25485303E 04 P.E.=-0.50970817E 04 K.E.= 0.25485513E 04 V.T.=-0.19999916E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-547.83546	-97.12870	-33.09026	BASIS/ORB E	-90.34521	-30.62194
1S 36.00000	0.95789	-0.34638	0.16062	2P 16.00000	0.80074	-0.38951
1S 50.00000	0.01687	0.02047	-0.01044	2P 25.00000	0.09224	-0.04442
2S 16.29530	-0.01417	1.09877	-0.55014	3P 8.50000	0.01988	0.73785
2S 28.00000	0.04148	-0.24463	0.12232	3P 7.60000	-0.01004	0.45660
3S 9.05000	-0.00942	-0.01620	0.57491	3P 15.00000	0.12643	-0.18156
3S 8.05000	0.00604	0.01035	0.80171			
3S 14.15680	0.00956	0.16540	-0.42299			

TABLE 31- 01

*ARGON K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.52681705E 03 P.E.=-0.10536324E 04 K.E.= 0.52681544E 03 V.T.=-0.20000031E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-118.60987	-12.32150	-1.27692	BASIS/ORB E	-9.57083	-0.59071
1S 18.02910	0.93297	-0.27231	0.08226	2P 8.10060	0.66506	-0.19032
1S 29.72000	0.01875	-0.00174	0.00194	2P 14.47880	0.04167	-0.01058
2S 6.75970	0.00427	1.06004	-0.37955	3P 2.90310	0.01048	0.58249
2S 16.00000	0.05948	-0.12980	0.04947	3P 1.60980	-0.00211	0.53562
3S 3.66250	0.00220	-0.01813	0.76991	3P 6.40090	0.35427	-0.11404
3S 2.08770	-0.00039	0.00286	0.60258			
3S 4.80000	-0.00328	0.07735	-0.31449			

*POTASSIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.59901710E 03 P.E.=-0.11980118E 04 K.E.= 0.59899470E 03 V.T.=-0.20000374E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-133.75327	-14.70848	-1.96325	BASIS/ORB E	-11.73869	-1.17004
1S 19.06810	0.93493	-0.27906	0.08919	2P 8.63412	0.66908	-0.21212
1S 30.84670	0.01735	0.00024	0.00130	2P 15.20120	0.04201	-0.01070
2S 7.22443	0.00255	1.06663	-0.40181	3P 3.18528	0.01044	0.60297
2S 16.66670	0.05966	-0.13495	0.05384	3P 1.93025	-0.00230	0.50296
3S 3.95347	0.00057	-0.00011	0.67059	3P 6.89646	0.34717	-0.11988
3S 2.41061	-0.00014	0.00068	0.62466			
3S 5.51700	-0.00120	0.06077	-0.24524			

*CALCIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.67615359E 03 P.E.=-0.13522808E 04 K.E.= 0.67612721E 03 V.T.=-0.20000389E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-149.91609	-17.36929	-2.77700	BASIS/ORB E	-14.17870	-1.87582
1S 20.08360	0.93741	-0.28514	0.09559	2P 9.15049	0.67313	-0.23070
1S 31.97330	0.01652	0.00183	0.00076	2P 15.88880	0.04332	-0.01122
2S 7.70197	0.00090	1.07186	-0.42181	3P 3.47259	0.01117	0.61888
2S 17.33330	0.05849	-0.14053	0.05838	3P 2.25309	-0.00284	0.48124
3S 4.24444	-0.00041	0.00781	0.62057	3P 7.39806	0.33881	-0.12548
3S 2.73351	0.00010	-0.00078	0.64198			
3S 6.17823	0.00029	0.05571	-0.21920			

*SCANDIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.75821391E 03 P.E.=-0.15164036E 04 K.E.= 0.75818979E 03 V.T.=-0.20000318E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-167.09257	-20.29679	-3.71269	BASIS/ORB E	-16.88409	-2.70326
1S 21.07910	0.94005	-0.29076	0.10148	2P 9.65138	0.67727	-0.24675
1S 33.10000	0.01623	0.00315	0.00028	2P 16.54520	0.04540	-0.01211
2S 8.19135	-0.00053	1.07559	-0.43946	3P 3.76455	0.01256	0.63096
2S 18.00000	0.05637	-0.14625	0.06295	3P 2.57811	-0.00375	0.46737
3S 4.53542	-0.00106	0.01147	0.59147	3P 7.90470	0.32942	-0.13073
3S 3.05642	0.00032	-0.00174	0.65689			
3S 6.78985	0.00141	0.05639	-0.21097			

*TITANIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.84518977E 03 P.E.=-0.16903602E 04 K.E.= 0.84517056E 03 V.T.=-0.20000226E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-185.27904	-23.48647	-4.76705	BASIS/ORB E	-19.85057	-3.64937
1S 22.05790	0.94264	-0.29600	0.10688	2P 10.13850	0.68150	-0.26079
1S 34.22670	0.01644	0.00427	-0.00013	2P 17.17370	0.04811	-0.01333
2S 8.69162	-0.00165	1.07797	-0.45499	3P 4.06064	0.01451	0.63976
2S 18.66670	0.05358	-0.15199	0.06753	3P 2.90507	-0.00500	0.45937
3S 4.82639	-0.00149	0.01286	0.57359	3P 8.41540	0.31924	-0.13559
3S 3.37932	0.00050	-0.00230	0.67019			
3S 7.35800	0.00218	0.06059	-0.21194			

*VANADIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.93707538E 03 P.E.=-0.18741366E 04 K.E.= 0.93706123E 03 V.T.=-0.20000150E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-204.47307	-26.93534	-5.93803	BASIS/ORB E	-23.07535	-4.71221
1S 23.02350	0.94505	-0.30090	0.11184	2P 10.61350	0.68582	-0.27319
1S 35.35330	0.01706	0.00523	-0.00048	2P 17.77780	0.05131	-0.01486
2S 9.20180	-0.00243	1.07933	-0.46879	3P 4.36037	0.01685	0.64567
2S 19.33330	0.05034	-0.15776	0.07214	3P 3.23378	-0.00654	0.45594
3S 5.11736	-0.00176	0.01279	0.56276	3P 8.92910	0.30849	-0.14004
3S 3.70223	0.00064	-0.00251	0.68215			
3S 7.88880	0.00265	0.06714	-0.21833			

*CHROMIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.10338666E 04 P.E.=-0.20677248E 04 K.E.= 0.10338581E 04 V.T.=-0.20000082E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-224.67300	-30.64134	-7.22427	BASIS/ORB E	-26.55651	-5.89045
1S 23.98000	0.94720	-0.30547	0.11637	2P 11.07840	0.69018	-0.28419
1S 36.48000	0.01799	0.00605	-0.00076	2P 18.36120	0.05488	-0.01666
2S 9.72097	-0.00289	1.08002	-0.48120	3P 4.66312	0.01943	0.64917
2S 20.00000	0.04691	-0.16360	0.07681	3P 3.56383	-0.00828	0.45601
3S 5.40833	-0.00191	0.01161	0.55702	3P 9.44514	0.29743	-0.14414
3S 4.02514	0.00074	-0.00235	0.69276			
3S 8.38856	0.00287	0.07528	-0.22822			

*MANGANESE K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.11355603E 04 P.E.=-0.22711173E 04 K.E.= 0.11355568E 04 V.T.=-0.20000031E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-245.87764	-34.60302	-8.62484	BASIS/ORB E	-30.29273	-7.18318
1S 24.93030	0.94905	-0.30970	0.12051	2P 11.53450	0.69460	-0.29403
1S 37.60670	0.01914	0.00677	-0.00099	2P 18.92720	0.05873	-0.01869
2S 10.24810	-0.00309	1.08042	-0.49254	3P 4.96848	0.02209	0.65052
2S 20.66670	0.04343	-0.16957	0.08158	3P 3.89514	-0.01015	0.45897
3S 5.69930	-0.00198	0.00947	0.55526	3P 9.96224	0.28618	-0.14792
3S 4.34804	0.00081	-0.00180	0.70199			
3S 8.86327	0.00290	0.08440	-0.24041			

*IRON K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.12421545E 04 P.E.=-0.24843103E 04 K.E.= 0.12421557E 04 V.T.=-0.19999988E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-268.08611	-38.81929	-10.13908	BASIS/ORB E	-34.28301	-8.58970
1S 25.87820	0.95059	-0.31362	0.12430	2P 11.98370	0.69903	-0.30284
1S 38.73330	0.02041	0.00740	-0.00118	2P 19.47920	0.06276	-0.02090
2S 10.78230	-0.00312	1.08079	-0.50301	3P 5.27590	0.02468	0.65012
2S 21.33330	0.04011	-0.17572	0.08644	3P 4.22742	-0.01204	0.46417
3S 5.99028	-0.00198	0.00649	0.55680	3P 10.47960	0.27494	-0.15145
3S 4.67095	0.00086	-0.00083	0.70975			
3S 9.31915	0.00281	0.09411	-0.25421			

*COBALT K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.13536467E 04 P.E.=-0.27072982E 04 K.E.= 0.13536513E 04 V.T.=-0.19999967E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-291.29780	-43.28937	-11.76651	BASIS/ORB E	-38.52664	-10.10954
1S 26.82720	0.95183	-0.31724	0.12778	2P 12.42780	0.70345	-0.31076
1S 39.86000	0.02170	0.00800	-0.00134	2P 20.02090	0.06689	-0.02327
2S 11.32260	-0.00307	1.08132	-0.51271	3P 5.58487	0.02704	0.64839
2S 22.00000	0.03707	-0.18208	0.09138	3P 4.56043	-0.01386	0.47103
3S 6.28125	-0.00196	0.00279	0.56109	3P 10.99610	0.26388	-0.15480
3S 4.99385	0.00089	0.00055	0.71602			
3S 9.76236	0.00267	0.10404	-0.26906			

*NICKEL K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.14700361E 04 P.E.=-0.29400797E 04 K.E.= 0.14700436E 04 V.T.=-0.19999948E 01

S	1S	2S	3S
BASIS/ORB E	-315.51214	-48.01261	-13.50674
1S 27.78100	0.95278	-0.32060	0.13102
1S 40.98670	0.02290	0.00859	-0.00152
2S 11.86800	-0.00304	1.08214	-0.52168
2S 22.66670	0.03448	-0.18867	0.09637
3S 6.57222	-0.00196	-0.00144	0.56753
3S 5.31676	0.00093	0.00231	0.72085
3S 10.19910	0.00254	0.11391	-0.28453

P	2P	3P
BASIS/ORB E	-43.02304	-11.74230
2P 12.86840	0.70784	-0.31789
2P 20.55560	0.07102	-0.02574
3P 5.89484	0.02910	0.64578
3P 4.89387	-0.01554	0.47900
3P 11.51100	0.25311	-0.15804

*COPPER K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.15913212E 04 P.E.=-0.31826518E 04 K.E.= 0.15913305E 04 V.T.=-0.19999941E 01

S	1S	2S	3S
BASIS/ORB E	-340.72880	-52.98853	-15.35951
1S 28.74260	0.95349	-0.32375	0.13407
1S 42.11330	0.02393	0.00923	-0.00175
2S 12.41750	-0.00311	1.08328	-0.52992
2S 23.33330	0.03242	-0.19546	0.10132
3S 6.86319	-0.00201	-0.00596	0.57544
3S 5.63966	0.00099	0.00437	0.72445
3S 10.63540	0.00251	0.12346	-0.30018

P	2P	3P
BASIS/ORB E	-47.77178	-13.48769
2P 13.30710	0.71220	-0.32433
2P 21.08670	0.07507	-0.02827
3P 6.20538	0.03075	0.64264
3P 5.22763	-0.01701	0.48765
3P 12.02310	0.24274	-0.16122

*ZINC K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.17175011E 04 P.E.=-0.34350128E 04 K.E.= 0.17175116E 04 V.T.=-0.19999939E 01

S	1S	2S	3S
BASIS/ORB E	-366.94743	-58.21674	-17.32459
1S 29.71610	0.95401	-0.32675	0.13701
1S 43.24000	0.02467	0.00997	-0.00207
2S 12.97030	-0.00336	1.08472	-0.53727
2S 24.00000	0.03103	-0.20242	0.10616
3S 7.15417	-0.00218	-0.01044	0.58408
3S 5.96257	0.00112	0.00659	0.72706
3S 11.07750	0.00260	0.13250	-0.31569

P	2P	3P
BASIS/ORB E	-52.77249	-15.34550
2P 13.74590	0.71652	-0.33017
2P 21.61790	0.07893	-0.03080
3P 6.51589	0.03195	0.63957
3P 5.56135	-0.01821	0.49633
3P 12.53150	0.23289	-0.16440

*GALLIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.18485752E 04 P.E.=-0.36971617E 04 K.E.= 0.18485864E 04 V.T.=-0.19999938E 01

S	1S	2S	3S
BASIS/ORB E	-394.16771	-63.69689	-19.40180
1S 30.70480	0.95440	-0.32966	0.13991
1S 44.36670	0.02502	0.01088	-0.00253
2S 13.52530	-0.00389	1.08639	-0.54361
2S 24.66670	0.03041	-0.20949	0.11076
3S 7.44514	-0.00251	-0.01444	0.59252
3S 6.28547	0.00134	0.00875	0.72911
3S 11.53160	0.00290	0.14080	-0.33068

P	2P	3P
BASIS/ORB E	-58.02489	-17.31552
2P 14.18630	0.72079	-0.33548
2P 22.15260	0.08252	-0.03327
3P 6.82588	0.03266	0.63709
3P 5.89482	-0.01911	0.50450
3P 13.03540	0.22364	-0.16764

*GERMANIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.19845428E 04 P.E.=-0.39690953E 04 K.E.= 0.19845526E 04 V.T.=-0.19999950E 01

S	1S	2S	3S
BASIS/ORB E	-422.38954	-69.42875	-21.59101
1S 31.71220	0.95474	-0.33256	0.14287
1S 45.49330	0.02487	0.01203	-0.00319
2S 14.08150	-0.00477	1.08821	-0.54872
2S 25.33330	0.03063	-0.21659	0.11498
3S 7.73611	-0.00306	-0.01749	0.59965
3S 6.60838	0.00171	0.01057	0.73124
3S 12.00380	0.00344	0.14818	-0.34484

P	2P	3P
BASIS/ORB E	-63.52877	-19.39761
2P 14.63000	0.72506	-0.34038
2P 22.69420	0.08573	-0.03562
3P 7.13484	0.03289	0.63574
3P 6.22780	-0.01970	0.51157
3P 13.53370	0.21505	-0.17096

TABLE 31- 04

*ARSENIC K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.21254031E 04 P.E.=-0.42508161E 04 K.E.= 0.21254130E 04 V.T.=-0.19999953E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-451.61262	-75.41210	-23.89210	BASIS/ORB E	-69.28391	-21.59165
1S 32.74190	0.95512	-0.33555	0.14598	2P 15.07890	0.72932	-0.34497
1S 46.62000	0.02412	0.01347	-0.00412	2P 23.24630	0.08846	-0.03777
2S 14.63810	-0.00610	1.09002	-0.55232	3P 7.44224	0.03261	0.63620
2S 26.00000	0.03178	-0.22366	0.11866	3P 6.56005	-0.01994	0.51688
3S 8.02708	-0.00391	-0.01909	0.60437	3P 14.02540	0.20721	-0.17439
3S 6.93128	0.00227	0.01173	0.73411			
3S 12.50030	0.00428	0.15454	-0.35796			

*SELENIUM K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.22711561E 04 P.E.=-0.45423216E 04 K.E.= 0.22711655E 04 V.T.=-0.19999959E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-481.83689	-81.64672	-26.30497	BASIS/ORB E	-75.29015	-23.89754
1S 33.79740	0.95565	-0.33871	0.14934	2P 15.53460	0.73361	-0.34934
1S 47.74670	0.02264	0.01531	-0.00538	2P 23.81230	0.09062	-0.03965
2S 15.19400	-0.00798	1.09166	-0.55407	3P 7.74758	0.03184	0.63919
2S 26.66670	0.03393	-0.23056	0.12160	3P 6.89133	-0.01984	0.51966
3S 8.31805	-0.00507	-0.01872	0.60541	3P 14.50960	0.20015	-0.17797
3S 7.25419	0.00305	0.01185	0.73865			
3S 13.02720	0.00545	0.15981	-0.36990			

*BROMINE K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.24218009E 04 P.E.=-0.48436105E 04 K.E.= 0.24218094E 04 V.T.=-0.19999965E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-513.06213	-88.13250	-28.82954	BASIS/ORB E	-81.54738	-26.31518
1S 34.88230	0.95644	-0.34212	0.15305	2P 15.99880	0.73796	-0.35360
1S 48.87330	0.02030	0.01761	-0.00705	2P 24.39570	0.09210	-0.04118
2S 15.74830	-0.01053	1.09299	-0.55356	3P 8.05034	0.03061	0.64559
2S 27.33330	0.03718	-0.23723	0.12360	3P 7.22139	-0.01939	0.51906
3S 8.60903	-0.00663	-0.01586	0.60161	3P 14.98530	0.19392	-0.18169
3S 7.57710	0.00414	0.01048	0.74580			
3S 13.59070	0.00702	0.16398	-0.38072			

*KRYPTON K(2)L(8)3S(2)3P(6) - 1S
T.E.=-0.25773375E 04 P.E.=-0.51546837E 04 K.E.= 0.25773460E 04 V.T.=-0.19999967E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-545.28831	-94.86930	-31.46573	BASIS/ORB E	-88.05547	-28.84452
1S 36.00000	0.95763	-0.34590	0.15721	2P 16.47320	0.74241	-0.35786
1S 50.00000	0.01698	0.02046	-0.00922	2P 25.00000	0.09282	-0.04228
2S 16.30000	-0.01392	1.09379	-0.55030	3P 8.35000	0.02889	0.65641
2S 28.00000	0.04159	-0.24354	0.12441	3P 7.55000	-0.01857	0.51406
3S 8.90000	-0.00860	-0.01009	0.59174	3P 15.45150	0.18859	-0.18557
3S 7.90000	0.00556	0.00722	0.75665			
3S 14.19690	0.00905	0.16714	-0.39064			

TABLE 32- 01

*CALCIUM K(2)L(8)3S(2)3P(6)4S(1), 2S
T.E.=-0.67656988E 03 P.E.=-0.13531400E 04 K.E.= 0.67657024E 03 V.T.=-0.19999994E 01

S	1S	2S	3S	4S
BASIS/ORB E	-149.60938	-17.06684	-2.48512	-0.41631
1S 20.08360	0.93710	-0.27836	0.09745	-0.02735
1S 31.97330	0.01668	-0.00170	-0.00020	0.00001
2S 17.33330	0.05892	-0.15453	0.05511	-0.01579
2S 8.45000	0.	0.88812	-0.32731	0.09323
3S 7.42820	0.00141	0.27160	-0.23018	0.07039
3S 3.93780	-0.00458	-0.02105	0.74918	-0.21146
3S 3.00000	0.00712	0.04687	0.06016	-0.10275
4S 3.07393	-0.00362	-0.02458	0.38049	-0.05432
4S 1.41844	0.00031	0.00260	0.01583	0.61851
4S 0.99720	-0.00046	-0.00387	-0.01641	0.51782
4S 0.86369	0.00027	0.00228	0.00933	-0.06818

P	2P	3P
BASIS/ORB E	-13.87427	-1.58164
2P 9.13081	0.67855	-0.22549
2P 16.00200	0.04216	-0.01291
3P 7.37633	0.33356	-0.13924
3P 3.66672	0.01209	0.52615
3P 2.37103	-0.00428	0.54667
3P 1.71801	0.00133	0.04210

*SCANDIUM K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.75909216E 03 P.E.=-0.15181897E 04 K.E.= 0.75909755E 03 V.T.=-0.19999929E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-166.46669	-19.63879	-3.11648	BASIS/ORB E	-16.22973	-2.12922	BASIS/ORB E	-0.90449
1S 20.87910	0.94510	-0.28640	0.10065	2P 9.58920	0.68516	-0.23316	3D 3.65770	0.33305
1S 33.10000	0.02061	-0.00129	0.00046	2P 16.47600	0.04664	-0.01540	3D 8.54690	0.02883
2S 18.00780	0.04355	-0.15396	0.05962	3P 7.86510	0.31805	-0.14804	3D 4.97599	0.05570
2S 8.60000	0.00298	0.98398	-0.38027	3P 4.14170	0.01376	0.45515	3D 1.87040	0.64768
3S 7.37980	-0.00154	0.17887	-0.23325	3P 2.70858	-0.00465	0.58298	3D 1.00000	0.07391
3S 4.73540	0.00093	-0.01344	0.41347	3P 2.06790	0.00171	0.08497		
3S 3.30713	-0.00075	0.01541	0.61367					
3S 2.59094	0.00029	-0.00552	0.19305					

*TITANIUM K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.84674902E 03 P.E.=-0.16934965E 04 K.E.= 0.84674750E 03 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-184.51534	-22.68674	-4.06879	BASIS/ORB E	-19.05494	-2.97550	BASIS/ORB E	-1.59273
1S 21.78320	0.95008	-0.29191	0.10717	2P 10.00000	0.69332	-0.24507	3D 2.00850	0.58527
1S 34.57420	0.02158	-0.00078	-0.00040	2P 16.79230	0.05373	-0.01922	3D 9.10000	0.03894
2S 18.70590	0.03587	-0.15823	0.06040	3P 8.32710	0.29898	-0.15993	3D 4.40390	0.26865
2S 9.30981	0.00414	0.93766	-0.36583	3P 4.73530	0.01283	0.36556	3D 3.42000	0.25394
3S 8.23718	-0.00230	0.22805	-0.24587	3P 3.08662	-0.00173	0.72553	3D 1.36216	-0.04091
3S 4.83160	0.00139	0.00096	0.47204	3P 2.00000	0.00032	0.04046		
3S 3.37930	-0.00153	0.00843	0.66599					
3S 2.80000	0.00074	-0.00406	0.05947					

*VANADIUM K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.93944523E 03 P.E.=-0.18788888E 04 K.E.= 0.93944365E 03 V.T.=-0.20000017E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-203.58039	-26.00594	-5.14862	BASIS/ORB E	-22.14999	-3.94776	BASIS/ORB E	-2.40836
1S 22.77630	0.95146	-0.29575	0.10617	2P 10.53300	0.65928	-0.24350	3D 2.81240	0.53348
1S 36.05340	0.02128	-0.00006	0.00218	2P 16.60760	0.07234	-0.02643	3D 9.90720	0.03214
2S 19.54100	0.03470	-0.15857	0.07329	3P 9.04880	0.30753	-0.16211	3D 4.77520	0.34133
2S 9.37400	0.00391	1.04140	-0.44789	3P 4.86596	0.03021	0.40160	3D 2.16875	0.15756
3S 7.90503	-0.00294	0.12449	-0.21315	3P 3.53700	-0.02324	0.36476	3D 6.25000	0.02781
3S 5.12990	0.00283	-0.01498	0.44811	3P 3.07000	0.01126	0.35448		
3S 3.90220	-0.00232	0.01549	0.63319					
3S 3.00000	0.00071	-0.00435	0.14870					

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.10371701E 04 P.E.=-0.20743337E 04 K.E.= 0.10371637E 04 V.T.=-0.20000061E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-223.65683	-29.58947	-6.35000	BASIS/ORB E	-25.50832	-5.04054	BASIS/ORB E	-3.34535
1S 23.53540	0.94298	-0.28692	0.11222	2P 10.26740	0.70316	-0.26260	3D 3.47000	0.38998
1S 34.98000	0.03655	-0.00873	0.00192	2P 16.36250	0.11244	-0.04469	3D 10.35870	0.03447
2S 21.28350	0.02378	-0.14764	0.05750	3P 9.63420	0.18978	-0.14382	3D 5.32640	0.30531
2S 9.91772	0.01033	0.98129	-0.39740	3P 6.64010	0.04678	0.09157	3D 2.69977	0.33046
3S 9.48828	-0.00770	0.15076	-0.22980	3P 4.42100	-0.00594	0.63160	3D 6.82340	0.02130
3S 5.80330	0.00527	0.02565	0.22540	3P 3.33312	0.00162	0.40505		
3S 4.42100	-0.00519	-0.00721	0.66622					
3S 3.63812	0.00203	0.00198	0.30014					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.11399165E 04 P.E.=-0.22798160E 04 K.E.= 0.11398995E 04 V.T.=-0.20000147E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-244.74036	-33.43311	-7.66872	BASIS/ORB E	-29.12569	-6.25030	BASIS/ORB E	-4.40115
1S 24.60960	0.95274	-0.30360	-0.12004	2P 9.58940	0.86361	-0.37662	3D 3.72390	0.14955
1S 37.60670	0.02721	0.00031	0.00084	2P 16.35810	0.14466	-0.04583	3D 11.17720	0.03343
2S 21.11770	0.02510	-0.16286	-0.06737	3P 6.08000	0.00701	-0.25839	3D 5.61570	0.36011
2S 10.66850	0.00579	0.96964	0.40749	3P 5.28000	0.02125	0.90251	3D 3.26580	0.50747
3S 9.75659	-0.00387	0.19519	0.26086	3P 3.37323	-0.02211	0.66496	3D 7.25300	0.02180
3S 5.73350	0.00299	0.01523	-0.44955	3P 2.97300	0.01376	-0.21268		
3S 4.22427	-0.00537	-0.00652	-0.81748					
3S 3.85200	0.00345	0.00346	0.05805					

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.12476806E 04 P.E.=-0.24953678E 04 K.E.= 0.12476872E 04 V.T.=-0.19999947E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-266.82819	-37.53365	-9.10325	BASIS/ORB E	-32.99918	-7.57561	BASIS/ORB E	-5.57399
1S 25.87820	0.94991	-0.31122	0.12395	2P 10.09080	0.86350	0.39343	3D 3.75374	0.64586
1S 38.73300	0.02083	0.00618	-0.00237	2P 17.02370	0.14199	0.04345	3D 11.50000	0.03746
2S 21.33300	0.04125	-0.18092	0.08072	3P 6.07960	0.03047	0.16171	3D 6.09290	0.36174
2S 11.01230	-0.00536	1.03984	-0.45864	3P 5.46810	0.00174	-0.68343	3D 2.55156	0.01463
3S 9.50024	0.00818	0.15469	-0.31975	3P 3.47900	0.00543	-0.10530	3D 7.90000	0.00673
3S 6.99020	-0.01121	-0.01845	0.29160	3P 4.32900	-0.01598	-0.47445		
3S 4.62647	-0.00250	-0.00292	0.83091					
3S 5.67000	0.00871	0.01637	0.17726					

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.13604599E 04 P.E.=-0.27209283E 04 K.E.= 0.13604683E 04 V.T.=-0.19999939E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-289.92458	-41.89100	-10.65262	BASIS/ORB E	-37.12916	-9.01568	BASIS/ORB E	-6.86250
1S 26.82720	0.95607	-0.31004	0.12557	2P 11.11190	0.89274	-0.40282	3D 4.52420	0.47494
1S 41.36000	0.01839	0.00386	-0.00140	2P 19.95740	0.07645	-0.02204	3D 12.07030	0.04032
2S 22.00000	0.03581	-0.19837	0.08940	3P 7.16120	0.12647	-0.17211	3D 6.56390	0.32023
2S 12.16050	-0.00272	0.94551	-0.42169	3P 5.67890	-0.10508	0.84187	3D 3.38710	0.24777
3S 10.54700	0.00240	0.27778	-0.30844	3P 3.87910	-0.02581	0.12951	3D 2.25000	-0.02301
3S 6.28220	-0.00377	-0.04350	0.39461	3P 4.40000	0.06471	0.27866		
3S 5.20840	0.00477	0.06347	0.55527					
3S 4.55000	-0.00202	-0.02684	0.27999					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.14782517E 04 P.E.=-0.29564811E 04 K.E.= 0.14782292E 04 V.T.=-0.20000152E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-314.02146	-46.50300	-12.31593	BASIS/ORB E	-41.51300	-10.56977	BASIS/ORB E	-8.26616
1S 27.78100	0.95234	-0.31354	0.12798	2P 11.34410	0.77361	-0.33746	3D 4.87691	0.33012
1S 40.98670	0.02318	0.00471	-0.00117	2P 18.00300	0.15754	-0.06245	3D 12.67910	0.03966
2S 22.66670	0.03529	-0.20703	0.09748	3P 11.35750	0.08540	-0.09435	3D 6.87180	0.35609
2S 12.65000	-0.00418	0.96919	-0.44572	3P 6.30260	0.02433	0.45821	3D 3.12500	-0.05769
3S 10.71570	0.00389	0.27898	-0.33206	3P 3.93766	0.00297	-0.01523	3D 3.90000	0.38781
3S 6.77220	-0.00589	-0.08200	0.37809	3P 4.79377	-0.01189	0.69196		
3S 5.51880	0.00701	0.09939	0.64620					
3S 4.80000	-0.00298	-0.04102	0.23831					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.16010508E 04 P.E.=-0.32020345E 04 K.E.= 0.16009837E 04 V.T.=-0.20000418E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-339.12180	-51.36913	-14.09260	BASIS/ORB E	-46.14986	-12.23701	BASIS/ORB E	-9.78419
1S 28.74260	0.95307	-0.31950	-0.13251	2P 12.11030	0.37860	-0.12324	3D 4.95350	0.66609
1S 42.11330	0.02421	0.00696	0.00222	2P 16.58670	0.36721	-0.17604	3D 13.00000	0.03604
2S 23.33300	0.03323	-0.20736	-0.09852	3P 12.18000	0.30667	-0.24511	3D 9.34000	0.03543
2S 13.14530	-0.00430	0.97088	0.45076	3P 7.48000	-0.02337	0.28887	3D 3.46660	0.04066
3S 11.41790	0.00353	0.26333	0.31668	3P 4.22030	-0.01593	-0.01105	3D 7.31689	0.27512
3S 6.66320	-0.00800	-0.05874	-0.44677	3P 5.27939	0.03510	0.88919		
3S 5.83900	0.00970	0.07682	-0.57823					
3S 5.03300	-0.00317	-0.02503	-0.21761					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(1), 2D
T.E.=-0.17288645E 04 P.E.=-0.34577207E 04 K.E.= 0.17288560E 04 V.T.=-0.20000049E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-365.22520	-56.48809	-15.98237	BASIS/ORB E	-51.04039	-14.01736	BASIS/ORB E	-11.41582
1S 29.71610	0.95379	-0.32539	0.13515	2P 12.19890	0.85835	-0.40466	3D 5.57808	0.54998
1S 43.24000	0.02482	0.00938	-0.00233	2P 19.96580	0.12541	-0.04522	3D 13.50000	0.04335
2S 24.00000	0.03148	-0.20602	0.10362	3P 10.64670	0.03124	-0.09423	3D 7.80000	0.28735
2S 13.24730	-0.00417	1.03948	-0.49994	3P 6.95210	0.01519	0.54495	3D 3.18191	-0.05360
3S 11.47710	0.00344	0.18628	-0.30122	3P 5.35335	-0.00548	0.63379	3D 4.01098	0.22174
3S 6.86000	-0.00538	-0.02363	0.71865	3P 2.98910	0.00040	-0.00513		
3S 5.63000	0.00748	0.03637	0.56136					
3S 5.00000	-0.00355	-0.01695	-0.01196					

*SCANDIUM K(2)L(8)3S(2)3P(6)4S(0)3D(1), 3F
T.E.=-0.75950971E 03 P.E.=-0.15190217E 04 K.E.= 0.75951199E 03 V.T.=-0.19999970E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-165.98224	-19.13304	-2.63287	BASIS/ORB E	-15.72636	-1.66043	BASIS/ORB E	-0.45495
1S 20.87910	0.94515	-0.28643	0.10087	2P 9.58920	0.68540	-0.22948	3D 3.44897	0.27992
1S 33.10000	0.02059	-0.00128	-0.00024	2P 16.47600	0.04662	-0.01489	3D 8.54690	0.02358
2S 18.00780	0.04352	-0.15402	0.05671	3P 7.86510	0.31758	-0.14319	3D 4.87290	0.07659
2S 8.60000	0.00294	0.98440	-0.37093	3P 4.14170	0.01441	0.43260	3D 1.83177	0.50138
3S 7.37980	-0.00148	0.17807	-0.24598	3P 2.80671	-0.00473	0.48922	3D 1.02968	0.30382
3S 4.73540	0.00085	-0.01207	0.46914	3P 2.06790	0.00156	0.20637		
3S 3.20870	-0.00075	0.01566	0.52659					
3S 2.61464	0.00034	-0.00664	0.23710					

*TITANIUM K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.84773032E 03 P.E.=-0.16954699E 04 K.E.= 0.84773967E 03 V.T.=-0.19999889E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-183.86069	-22.00101	-3.44526	BASIS/ORB E	-18.37280	-2.37316	BASIS/ORB E	-1.02372
1S 21.78320	0.95016	-0.29198	0.10557	2P 10.00000	0.69337	-0.23553	3D 2.01922	0.57709
1S 34.57420	0.02156	-0.00073	-0.00049	2P 16.79230	0.05377	-0.01995	3D 9.10000	0.03278
2S 18.70590	0.03582	-0.15818	0.05911	3P 8.32710	0.29853	-0.16450	3D 4.40390	0.29484
2S 9.30981	0.00409	0.93789	-0.35924	3P 4.73530	0.01316	0.40403	3D 3.18583	0.15486
3S 8.23718	-0.00225	0.22739	-0.24207	3P 2.90441	-0.00120	0.72239	3D 1.18996	0.07684
3S 4.83160	0.00137	0.00186	0.47618	3P 1.34180	0.00021	0.01734		
3S 3.37930	-0.00150	0.00768	0.55786					
3S 2.80000	0.00073	-0.00356	0.16519					

*VANADIUM K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.94113643E 03 P.E.=-0.18822853E 04 K.E.= 0.94114889E 03 V.T.=-0.19999866E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-202.78674	-25.17735	-4.42151	BASIS/ORB E	-21.32541	-3.24414	BASIS/ORB E	-1.73779
1S 22.77630	0.95150	-0.29569	0.10658	2P 10.53300	0.65873	-0.23191	3D 2.78557	0.36076
1S 36.05340	0.02127	-0.00007	0.00088	2P 16.60760	0.07258	-0.02770	3D 9.90720	0.03306
2S 19.54100	0.03471	-0.15867	0.06773	3P 9.04880	0.30751	-0.17088	3D 4.77520	0.36068
2S 9.37400	0.00372	1.04186	-0.42978	3P 5.11781	0.02256	0.36532	3D 2.16560	0.34332
3S 7.90503	-0.00255	0.12209	-0.24173	3P 3.23720	-0.00411	0.75596	3D 1.17200	0.01316
3S 5.12990	0.00179	-0.00751	0.61945	3P 1.47490	0.00064	0.01472		
3S 3.30220	-0.00275	0.01832	0.81630					
3S 3.00000	0.00192	-0.01235	-0.18172					

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.10397009E 04 P.E.=-0.20794150E 04 K.E.= 0.10397141E 04 V.T.=-0.19999871E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-222.73319	-28.62987	-5.53026	BASIS/ORB E	-24.55268	-4.24503	BASIS/ORB E	-2.58041
1S 23.53540	0.94311	-0.28695	0.11112	2P 10.26740	0.70365	-0.24419	3D 3.47000	0.13784
1S 34.98000	0.03650	-0.00865	0.00126	2P 16.36250	0.11223	-0.04758	3D 10.35870	0.03804
2S 21.28350	0.02371	-0.14756	0.05494	3P 9.63420	0.18789	-0.16537	3D 5.32640	0.38671
2S 9.91772	0.01024	0.98140	-0.38638	3P 6.64010	0.04878	0.14634	3D 2.69977	0.55984
3S 9.48828	-0.00761	0.14947	-0.23151	3P 4.42100	-0.00604	0.46851	3D 6.82340	-0.03034
3S 5.80330	0.00521	0.02817	0.27248	3P 3.33312	0.00188	0.53166		
3S 4.42100	-0.00513	-0.00907	0.46941					
3S 3.63812	0.00201	0.00287	0.45346					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.11434107E 04 P.E.=-0.22868116E 04 K.E.= 0.11434007E 04 V.T.=-0.20000086E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-243.69413	-32.35185	-6.76420	BASIS/ORB E	-28.04799	-5.36968	BASIS/ORB E	-3.54718
1S 24.60960	0.95285	-0.30364	-0.11749	2P 9.59228	0.86239	-0.36742	3D 3.72390	-0.29673
1S 37.60670	0.02717	0.00040	0.00072	2P 16.35810	0.14475	-0.04445	3D 11.17720	0.03661
2S 21.11770	0.02503	-0.16264	-0.06648	3P 6.08000	0.00888	-0.20384	3D 5.61570	0.45490
2S 10.66850	0.00572	0.96932	0.40068	3P 5.28000	0.02134	0.79147	3D 3.26580	0.91475
3S 9.75659	-0.00380	0.19417	0.25086	3P 3.37323	-0.02264	0.66981	3D 7.25300	-0.02851
3S 5.73350	0.00295	0.01827	-0.44726	3P 2.97300	0.01421	-0.15784		
3S 4.22427	-0.00529	-0.01066	-0.57660					
3S 3.85200	0.00340	0.00623	-0.18069					

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.12522583E 04 P.E.=-0.25044968E 04 K.E.= 0.12522384E 04 V.T.=-0.20000158E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-265.66271	-36.33436	-8.11696	BASIS/ORB E	-31.80291	-6.61228	BASIS/ORB E	-4.63252
1S 25.87820	0.95002	-0.31118	0.12363	2P 10.01640	0.86766	0.38622	3D 3.75374	0.63525
1S 38.73300	0.02078	0.00625	-0.00348	2P 17.02370	0.14558	0.04384	3D 11.50000	0.03249
2S 21.33300	0.04119	-0.18076	0.07495	3P 6.07960	-0.08139	0.03415	3D 6.09290	0.30370
2S 11.01230	-0.00543	1.03958	-0.43941	3P 5.46810	0.15252	-0.47710	3D 2.55156	0.07764
3S 9.50024	0.00832	0.15189	-0.36083	3P 3.47900	0.02139	-0.17806	3D 7.90000	0.02765
3S 6.99020	-0.01140	-0.01234	0.49983	3P 4.32900	-0.07854	-0.48669		
3S 4.62647	-0.00255	-0.00154	1.04637					
3S 5.67000	0.00886	0.01234	-0.21065					

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.13662389E 04 P.E.=-0.27324766E 04 K.E.= 0.13662376E 04 V.T.=-0.20000008E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-288.63918	-40.57624	-9.58669	BASIS/ORB E	-35.81641	-7.97140	BASIS/ORB E	-5.83545
1S 26.82720	0.95618	-0.31002	0.12321	2P 11.11660	0.89128	-0.39309	3D 4.52420	0.39728
1S 41.36000	0.01835	0.00396	-0.00138	2P 19.95740	0.07645	-0.02150	3D 12.07030	0.03836
2S 22.00000	0.03574	-0.19803	0.08782	3P 7.16120	0.12821	-0.14734	3D 6.56390	0.30904
2S 12.16050	-0.00277	0.94484	-0.41414	3P 5.67890	-0.10371	0.76268	3D 3.38710	0.33878
3S 10.54700	0.00246	0.27648	-0.29861	3P 3.87910	-0.02471	0.24263	3D 2.10000	-0.01524
3S 6.28220	-0.00385	-0.03739	0.43215	3P 4.40000	0.06281	0.22166		
3S 5.20840	0.00488	0.05676	0.30655					
3S 4.55000	-0.00208	-0.02397	0.48575					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.14853481E 04 P.E.=-0.29706722E 04 K.E.= 0.14853241E 04 V.T.=-0.20000161E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-312.61784	-45.07459	-11.17152	BASIS/ORB E	-40.08550	-9.44542	BASIS/ORB E	-7.15424
1S 27.78100	0.95246	-0.31355	0.12554	2P 11.34880	0.77191	-0.33630	3D 4.87691	0.24136
1S 40.98670	0.02314	0.00485	-0.00109	2P 18.00300	0.15761	-0.05874	3D 12.67910	0.03780
2S 22.66670	0.03521	-0.20658	0.09602	3P 11.35750	0.08567	-0.08100	3D 6.87180	0.34736
2S 12.65000	-0.00423	0.96826	-0.43842	3P 6.30260	0.02846	0.41401	3D 3.12500	-0.03730
3S 10.71570	0.00396	0.27755	-0.31969	3P 3.93766	0.00424	0.06190	3D 3.90000	0.47382
3S 6.77220	-0.00598	-0.07595	0.39739	3P 4.79377	-0.01504	0.65273		
3S 5.51880	0.00713	0.09339	0.43710					
3S 4.80000	-0.00304	-0.03846	0.41993					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.16095799E 04 P.E.=-0.32190926E 04 K.E.= 0.16095125E 04 V.T.=-0.20000418E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-337.60111	-49.82873	-12.87092	BASIS/ORB E	-44.60911	-11.03362	BASIS/ORB E	-8.58825
1S 28.74260	0.95319	-0.31952	-0.12980	2P 12.06340	0.38221	-0.14010	3D 4.95350	0.65841
1S 42.11330	0.02416	0.00711	0.00197	2P 16.58670	0.36691	-0.16374	3D 13.00000	0.03144
2S 23.33300	0.03315	-0.20682	-0.09770	3P 12.18000	0.30116	-0.21879	3D 9.34000	0.05614
2S 13.14530	-0.00434	0.96973	0.44496	3P 7.48000	-0.02004	0.25844	3D 3.46660	0.09227
3S 11.41790	0.00359	0.26216	0.30177	3P 4.22030	-0.01544	0.06673	3D 7.31689	0.22191
3S 6.66320	-0.00811	-0.04895	-0.46085	3P 5.27939	0.03392	0.83225		
3S 5.83900	0.00984	0.06618	-0.39526					
3S 5.03300	-0.00322	-0.02165	-0.37648					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(2), 3F
T.E.=-0.17389414E 04 P.E.=-0.34778821E 04 K.E.= 0.17389406E 04 V.T.=-0.20000004E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-363.58915	-54.83731	-14.68436	BASIS/ORB E	-49.38795	-12.73571	BASIS/ORB E	-10.13662
1S 29.71610	0.95391	-0.32546	0.13213	2P 11.83490	0.90117	-0.42575	3D 5.57808	0.49069
1S 43.24000	0.02478	0.00958	-0.00188	2P 19.96580	0.13254	-0.04469	3D 13.50000	0.04204
2S 24.00000	0.03140	-0.20530	0.10346	3P 10.64670	-0.03976	-0.03021	3D 7.80000	0.27725
2S 13.24730	-0.00421	1.03783	-0.49514	3P 6.95210	0.04594	0.41936	3D 3.18191	-0.06415
3S 11.47710	0.00350	0.18566	-0.28053	3P 5.35335	-0.02087	0.72112	3D 4.01098	0.30851
3S 6.86000	-0.00547	-0.01685	0.64276	3P 2.98910	0.00222	0.00273		
3S 5.63000	0.00762	0.02811	0.53604					
3S 5.00000	-0.00362	-0.01309	0.07361					

*TITANIUM K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.84818533E 03 P.E.=-0.16963772E 04 K.E.= 0.84819185E 03 V.T.=-0.19999923E 01

S		1S	2S	3S	P		2P	3P	D		3D
BASIS/ORB E		-183.35174	-21.47129	-2.93757	BASIS/ORB E		-17.84544	-1.87946	BASIS/ORB E		-0.52574
1S	21.78320	0.95020	-0.29200	0.10445	2P	9.97092	0.69586	-0.22581	3D	2.01396	0.50128
1S	34.57420	0.02155	-0.00073	-0.00043	2P	16.79230	0.05464	-0.02224	3D	9.10000	0.02920
2S	18.70590	0.03581	-0.15827	0.05875	3P	8.32710	0.29397	-0.17542	3D	4.40390	0.24771
2S	9.30981	0.00402	0.93832	-0.35629	3P	4.73530	0.01438	0.44860	3D	3.33098	0.13886
3S	8.23718	-0.00216	0.22675	-0.23825	3P	2.76761	-0.00151	0.69439	3D	1.14179	0.26271
3S	4.83160	0.00121	0.00277	0.46904	3P	1.34180	0.00040	0.01555			
3S	3.37930	-0.00107	0.00542	0.57204							
3S	2.60000	0.00041	-0.00186	0.15974							

*VANADIUM K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.94217841E 03 P.E.=-0.18843728E 04 K.E.= 0.94219448E 03 V.T.=-0.19999828E 01

S		1S	2S	3S	P		2P	3P	D		3D
BASIS/ORB E		-202.11199	-24.47340	-3.77750	BASIS/ORB E		-20.62488	-2.62014	BASIS/ORB E		-1.11484
1S	22.81270	0.94485	-0.29641	0.10407	2P	10.60260	0.66333	-0.21968	3D	2.99032	0.31996
1S	34.55340	0.02495	0.00072	0.00132	2P	16.85060	0.06518	-0.02776	3D	9.90720	0.03034
2S	19.50940	0.03931	-0.15894	0.06851	3P	9.02682	0.31013	-0.19207	3D	4.82835	0.30334
2S	9.37109	0.00141	1.04284	-0.42748	3P	5.42466	0.02096	0.34137	3D	1.95920	0.44765
3S	7.90690	-0.00030	0.12124	-0.22404	3P	3.19966	-0.00147	0.79046	3D	1.17200	0.03614
3S	5.12621	-0.00009	-0.01093	0.55413	3P	1.47490	0.00031	0.02795			
3S	3.89122	0.00009	0.01429	0.22852							
3S	3.18239	-0.00006	-0.00468	0.46183							

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.10414751E 04 P.E.=-0.20829751E 04 K.E.= 0.10414998E 04 V.T.=-0.19999761E 01

S		1S	2S	3S	P		2P	3P	D		3D
BASIS/ORB E		-221.91823	-27.78214	-4.78118	BASIS/ORB E		-23.70870	-3.51851	BASIS/ORB E		-1.85086
1S	23.53540	0.94294	-0.28730	0.10922	2P	10.63520	0.65544	-0.22053	3D	3.27178	0.30667
1S	34.98000	0.03662	-0.00843	0.00127	2P	16.36250	0.10835	-0.04583	3D	10.35870	0.03309
2S	21.28350	0.02396	-0.14713	0.05417	3P	9.63420	0.26090	-0.18418	3D	5.22640	0.32670
2S	9.91772	0.00959	0.98072	-0.38054	3P	5.96087	0.03185	0.29256	3D	2.34420	0.43121
3S	9.48828	-0.00657	0.15060	-0.22390	3P	3.54740	-0.00331	0.83719	3D	1.26450	0.01664
3S	5.57624	0.00350	0.02912	0.37581	3P	1.61430	0.00061	0.02639			
3S	4.02510	-0.00346	-0.01233	0.59544							
3S	3.28390	0.00149	0.00484	0.22221							

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.11460482E 04 P.E.=-0.22920725E 04 K.E.= 0.11460244E 04 V.T.=-0.20000207E 01

S		1S	2S	3S	P		2P	3P	D		3D
BASIS/ORB E		-242.75224	-31.37570	-5.92341	BASIS/ORB E		-27.07561	-4.55231	BASIS/ORB E		-2.71966
1S	24.60960	0.95295	-0.30369	-0.11586	2P	9.59228	0.86172	-0.35894	3D	3.72390	0.37632
1S	37.60670	0.02714	0.00047	0.00095	2P	16.35810	0.14494	-0.04333	3D	11.17720	0.03506
2S	21.11770	0.02498	-0.16252	-0.06459	3P	6.08000	0.00810	-0.17015	3D	5.61570	0.31518
2S	10.66850	0.00566	0.96928	0.39211	3P	5.28000	0.02359	0.72274	3D	2.48490	0.38725
3S	9.75659	-0.00374	0.19328	0.24808	3P	3.37323	-0.02405	0.60673	3D	1.37180	-0.01703
3S	5.73350	0.00290	0.02039	-0.47056	3P	2.97300	0.01518	-0.05557			
3S	4.22427	-0.00519	-0.01367	-0.28424							
3S	3.85200	0.00333	0.00832	-0.45048							

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.12558827E 04 P.E.=-0.25117627E 04 K.E.= 0.12558799E 04 V.T.=-0.20000021E 01

S		1S	2S	3S	P		2P	3P	D		3D
BASIS/ORB E		-264.59420	-35.23227	-7.18811	BASIS/ORB E		-30.70421	-5.70677	BASIS/ORB E		-3.70977
1S	25.87820	0.95011	-0.31115	0.12410	2P	10.01640	0.86681	0.37643	3D	3.55374	0.59614
1S	38.73300	0.02075	0.00630	-0.00493	2P	17.02370	0.14577	0.04309	3D	12.50000	0.02372
2S	21.33300	0.04113	-0.18067	0.06814	3P	6.07960	-0.08317	0.02960	3D	6.09290	0.32973
2S	11.01230	-0.00551	1.03953	-0.41805	3P	5.46810	0.15746	-0.47666	3D	2.55156	0.11540
3S	9.50024	0.00846	0.14957	-0.41578	3P	3.47900	0.02233	-0.29491	3D	7.90000	0.02247
3S	6.99020	-0.01160	-0.00754	0.74186	3P	4.32900	-0.08136	-0.36789			
3S	4.62647	-0.00260	-0.00034	1.26500							
3S	5.67000	0.00903	0.00905	-0.62395							

TABLE 34- 02

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.13709705E 04 P.E.=-0.27419345E 04 K.E.= 0.13709640E 04 V.T.=-0.20000049E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-287.44957	-39.35491	-8.57498	BASIS/ORB E	-34.59784	-6.98230	BASIS/ORB E	-4.82101
1S 26.82720	0.95627	-0.31001	0.12150	2P 11.11660	0.89049	-0.38374	3D 4.52420	0.29765
1S 41.36000	0.01832	0.00404	-0.00162	2P 19.95740	0.07658	-0.02116	3D 12.07030	0.03564
2S 22.00000	0.03568	-0.19780	0.08518	3P 7.16120	0.12705	-0.13642	3D 6.56390	0.30653
2S 12.16050	-0.00283	0.94445	-0.40457	3P 5.67890	-0.09869	0.73863	3D 3.38710	0.44031
3S 10.54700	0.00253	0.27533	-0.29622	3P 3.87910	-0.02205	0.41243	3D 2.10000	-0.00157
3S 6.28220	-0.00394	-0.03264	0.51255	3P 4.40000	0.05763	0.06735		
3S 5.20840	0.00501	0.05153	-0.00957					
3S 4.55000	-0.00213	-0.02165	0.72177					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.14913051E 04 P.E.=-0.29825822E 04 K.E.= 0.14912771E 04 V.T.=-0.20000187E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-311.30858	-43.73698	-10.07923	BASIS/ORB E	-38.74979	-8.37455	BASIS/ORB E	-6.04956
1S 27.78100	0.95257	-0.31356	0.12375	2P 11.34880	0.77133	-0.33260	3D 4.88529	0.16571
1S 40.98670	0.02309	0.00496	-0.00131	2P 18.00300	0.15765	-0.05621	3D 12.67910	0.03585
2S 22.66670	0.03514	-0.20625	0.09355	3P 11.35750	0.08500	-0.07259	3D 6.87180	0.33943
2S 12.65000	-0.00427	0.96763	-0.42920	3P 6.30260	0.03177	0.39356	3D 3.12500	0.01954
3S 10.71570	0.00401	0.27628	-0.31538	3P 3.93766	0.00526	0.16024	3D 3.90000	0.51128
3S 6.77220	-0.00604	-0.07106	0.45602	3P 4.79377	-0.01747	0.57206		
3S 5.51880	0.00722	0.08853	0.16666					
3S 4.80000	-0.00308	-0.03632	0.63008					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.16168795E 04 P.E.=-0.32336885E 04 K.E.= 0.16168091E 04 V.T.=-0.20000435E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-336.17383	-48.37724	-11.69989	BASIS/ORB E	-43.15850	-9.88257	BASIS/ORB E	-7.39482
1S 28.74260	0.95329	-0.31953	-0.12764	2P 12.06340	0.38221	-0.14617	3D 4.44252	0.62254
1S 42.11330	0.02412	0.00724	0.00197	2P 16.58670	0.36665	-0.15610	3D 13.00000	0.04173
2S 23.33300	0.03308	-0.20642	-0.09600	3P 12.18000	0.29981	-0.20413	3D 9.34000	-0.02522
2S 13.14530	-0.00438	0.96891	0.43743	3P 7.48000	-0.01725	0.24651	3D 3.46660	0.04655
3S 11.41790	0.00364	0.26105	0.29315	3P 4.22030	-0.01503	0.15846	3D 7.31689	0.38074
3S 6.66320	-0.00822	-0.04081	-0.53497	3P 5.27939	0.03301	0.74786		
3S 5.83900	0.00998	0.05733	-0.12407					
3S 5.03300	-0.00327	-0.01878	-0.56851					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(3), 4F
T.E.=-0.17476977E 04 P.E.=-0.34954067E 04 K.E.= 0.17477091E 04 V.T.=-0.19999935E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-362.04366	-53.27254	-13.43494	BASIS/ORB E	-47.82275	-11.50456	BASIS/ORB E	-8.85444
1S 29.71610	0.95403	-0.32552	0.12941	2P 11.83490	0.89983	-0.42545	3D 5.47162	0.43418
1S 43.24000	0.02473	0.00976	-0.00155	2P 19.96580	0.13271	-0.04117	3D 13.50000	0.03975
2S 24.00000	0.03131	-0.20473	0.10289	3P 10.64670	-0.03979	-0.00253	3D 7.80000	0.28235
2S 13.24730	-0.00422	1.03655	-0.48956	3P 6.95210	0.04896	0.32005	3D 3.18191	-0.05374
3S 11.47710	0.00354	0.18498	-0.26428	3P 5.35335	-0.02208	0.78731	3D 4.01098	0.35873
3S 6.86000	-0.00551	-0.01101	0.60130	3P 2.98910	0.00239	0.01556		
3S 5.63000	0.00767	0.02103	0.44316					
3S 5.00000	-0.00365	-0.00974	0.19623					

TABLE 35- 01

*VANADIUM K(2)L(8)3S(2)3P(6)4S(0)3D(4), ^{5}D
T.E.=-0.94266847E 03 P.E.=-0.18853617E 04 K.E.= 0.94269320E 03 V.T.=-0.19999737E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-201.57645	-23.91821	-3.24446	BASIS/ORB E	-20.07198	-2.10080	BASIS/ORB E	-0.58394
1S 22.87120	0.94425	-0.29543	0.10403	2P 10.44570	0.66478	-0.21118	3D 2.88611	0.29688
1S 34.67400	0.02319	0.00078	0.00061	2P 16.51900	0.07612	-0.03331	3D 9.90720	0.02686
2S 19.52540	0.04252	-0.16064	0.06662	3P 9.04976	0.29239	-0.19589	3D 4.82442	0.28104
2S 9.38686	0.00045	1.04041	-0.41843	3P 5.55888	0.02560	0.33258	3D 1.99736	0.33532
3S 7.90503	0.00067	0.12578	-0.23924	3P 3.18192	-0.00196	0.79546	3D 1.24385	0.23807
3S 5.15260	-0.00116	-0.01344	0.59842	3P 1.47490	0.00053	0.04548		
3S 3.87892	0.00110	0.01626	0.11096					
3S 3.18239	-0.00046	-0.00544	0.54861					

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(0)3D(4), ^{5}D
T.E.=-0.10425740E 04 P.E.=-0.20852119E 04 K.E.= 0.10426378E 04 V.T.=-0.19999389E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-221.21822	-27.05521	-4.11378	BASIS/ORB E	-22.98495	-2.87030	BASIS/ORB E	-1.19402
1S 23.53540	0.94310	-0.28726	0.10694	2P 10.64620	0.65467	-0.22515	3D 3.67178	0.21806
1S 34.98000	0.03654	-0.00845	0.00174	2P 16.36250	0.10805	-0.04132	3D 10.35870	0.03162
2S 21.28350	0.02383	-0.14725	0.05470	3P 9.63420	0.26187	-0.16628	3D 5.22640	0.27783
2S 9.91772	0.00971	0.98126	-0.37869	3P 5.96087	0.03207	0.26426	3D 2.34420	0.50423
3S 9.48828	-0.00679	0.14951	-0.21309	3P 3.54740	-0.00308	0.83816	3D 1.46450	0.10875
3S 5.57624	0.00436	0.03227	0.31605	3P 1.61430	0.00064	0.05242		
3S 4.32510	-0.00378	-0.01329	0.48337					
3S 3.28390	0.00108	0.00341	0.39060					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(4), ^{5}D
T.E.=-0.11479045E 04 P.E.=-0.22957911E 04 K.E.= 0.11478864E 04 V.T.=-0.20000156E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-241.91480	-30.50650	-5.15061	BASIS/ORB E	-26.21003	-3.80144	BASIS/ORB E	-1.95613
1S 24.60960	0.95303	-0.30373	-0.11511	2P 9.59228	0.86131	-0.35099	3D 3.72390	0.28361
1S 37.60670	0.02711	0.00052	0.00148	2P 16.35810	0.14509	-0.04254	3D 11.17720	0.03142
2S 21.11770	0.02493	-0.16247	-0.06189	3P 6.08000	0.00710	-0.16185	3D 5.61570	0.31040
2S 10.66850	0.00560	0.96941	0.38239	3P 5.28000	0.02558	0.70118	3D 2.48490	0.47649
3S 9.75659	-0.00369	0.19258	0.25149	3P 3.37323	-0.02525	0.48140	3D 1.37180	0.01506
3S 5.73350	0.00286	0.02177	-0.51292	3P 2.97300	0.01605	0.08740		
3S 4.22427	-0.00511	-0.01583	0.03229					
3S 3.85200	0.00328	0.00990	-0.72955					

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(4), ^{5}D
T.E.=-0.12586240E 04 P.E.=-0.25172534E 04 K.E.= 0.12586293E 04 V.T.=-0.19999959E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-263.62731	-34.23235	-6.32153	BASIS/ORB E	-29.70787	-4.86319	BASIS/ORB E	-2.84580
1S 25.87820	0.95020	-0.31114	0.12528	2P 10.01640	0.86626	0.36676	3D 3.65374	0.48280
1S 38.73300	0.02072	0.00633	-0.00663	2P 17.02370	0.14592	0.04267	3D 12.50000	0.02199
2S 21.33300	0.04108	-0.18064	0.06063	3P 6.07960	-0.08575	0.09275	3D 6.09290	0.30086
2S 11.01230	-0.00556	1.03967	-0.39561	3P 5.46810	0.16278	-0.60514	3D 2.55156	0.27193
3S 9.50024	0.00854	0.14768	-0.48023	3P 3.47900	0.02329	-0.44212	3D 8.00000	0.02417
3S 6.99020	-0.01170	-0.00385	1.00163	3P 4.32900	-0.08417	-0.15756		
3S 4.62647	-0.00263	0.00075	1.47687					
3S 5.67000	0.00912	0.00630	-1.04046					

TABLE 35- 02

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(4), 5D
T.E.=-0.13747229E 04 P.E.=-0.27494349E 04 K.E.= 0.13747120E 04 V.T.=-0.20000079E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-286.35813	-38.23079	-7.62114	BASIS/ORB E	-33.47697	-6.05138	BASIS/ORB E	-3.86137
1S 26.82720	0.95635	-0.31002	0.12047	2P 11.11660	0.88994	0.37453	3D 4.52729	0.21716
1S 41.36000	0.01829	0.00410	-0.00213	2P 19.95740	0.07668	0.02100	3D 12.07030	0.03297
2S 22.00000	0.03563	-0.19764	0.08159	3P 7.16120	0.12572	0.14256	3D 6.56390	0.30288
2S 12.16050	-0.00289	0.94427	-0.39327	3P 5.67890	-0.09417	-0.77454	3D 3.38710	0.49726
3S 10.54700	0.00259	0.27438	-0.30071	3P 3.87910	-0.01960	-0.63627	3D 2.28239	0.04086
3S 6.28220	-0.00403	-0.02914	0.62836	3P 4.40000	0.05298	0.18377		
3S 5.20840	0.00514	0.04762	-0.37574					
3S 4.55000	-0.00219	-0.01985	0.97753					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(4), 5D
T.E.=-0.14961886E 04 P.E.=-0.29923535E 04 K.E.= 0.14961649E 04 V.T.=-0.20000158E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-310.09505	-42.49296	-9.04174	BASIS/ORB E	-37.50839	-7.35936	BASIS/ORB E	-4.99668
1S 27.78100	0.95266	-0.31358	0.12266	2P 11.34880	0.77102	-0.32561	3D 4.01230	0.46734
1S 40.98670	0.02306	0.00504	-0.00185	2P 18.00300	0.15765	-0.05504	3D 12.67910	0.03386
2S 22.66670	0.03508	-0.20602	0.09005	3P 11.35750	0.08432	-0.07003	3D 6.87180	0.33263
2S 12.65000	-0.00432	0.96725	-0.41812	3P 6.30260	0.03437	0.39655	3D 3.12500	0.15314
3S 10.71570	0.00407	0.27517	-0.31891	3P 3.93766	0.00610	0.27731	3D 4.80818	0.09514
3S 6.77220	-0.00614	-0.06723	0.54978	3P 4.79377	-0.01934	0.45281		
3S 5.51880	0.00734	0.08468	-0.15457					
3S 4.80000	-0.00313	-0.03457	0.86208					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(4), 5D
T.E.=-0.16230121E 04 P.E.=-0.32459529E 04 K.E.= 0.16229407E 04 V.T.=-0.20000439E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-334.84097	-47.01677	-10.58159	BASIS/ORB E	-41.79983	-8.78553	BASIS/ORB E	-6.25056
1S 28.74260	0.95353	-0.31914	-0.12774	2P 12.06340	0.38234	-0.14210	3D 4.95350	0.53601
1S 42.11330	0.02400	0.00710	0.00322	2P 16.58670	0.36640	-0.15343	3D 13.00000	0.02843
2S 23.33300	0.03279	-0.20689	-0.08978	3P 12.18000	0.29859	-0.20031	3D 9.34000	0.05558
2S 13.14530	-0.00403	0.96983	0.42049	3P 7.48000	-0.01505	0.25265	3D 3.46660	0.25739
3S 11.41790	0.00309	0.25735	0.31150	3P 4.22030	-0.01469	0.26226	3D 7.31689	0.19960
3S 7.09000	-0.00224	-0.00579	-0.47036	3P 5.27939	0.03239	0.63836		
3S 5.03000	0.00181	0.01150	-0.78875					
3S 4.01000	-0.00074	-0.00447	0.01681					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(4), 5D
T.E.=-0.17551965E 04 P.E.=-0.35104114E 04 K.E.= 0.17552149E 04 V.T.=-0.19999894E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-360.59089	-51.79627	-12.23623	BASIS/ORB E	-46.34722	-10.32563	BASIS/ORB E	-7.61925
1S 29.71610	0.95413	-0.32557	0.12711	2P 11.83490	0.89880	-0.42507	3D 5.48515	0.33515
1S 43.24000	0.02468	0.00989	-0.00141	2P 19.96580	0.13285	-0.03782	3D 13.50000	0.03748
2S 24.00000	0.03124	-0.20429	0.10174	3P 10.64670	-0.03997	0.02259	3D 7.80000	0.28259
2S 13.24730	-0.00425	1.03560	-0.48289	3P 6.95210	0.05151	0.23430	3D 3.18191	-0.01516
3S 11.47710	0.00358	0.18430	-0.25311	3P 5.35335	-0.02302	0.83883	3D 4.10627	0.42923
3S 6.86000	-0.00558	-0.00618	0.59492	3P 2.98910	0.00253	0.03247		
3S 5.63000	0.00777	0.01522	0.28399					
3S 5.00000	-0.00370	-0.00697	0.35432					

TABLE 36- 01

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.10431383E 04 P.E.=-0.20862818E 04 K.E.= 0.10431436E 04 V.T.=-0.19999948E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-220.65377	-26.46959	-3.55070	BASIS/ORB E	-22.40178	-2.32143	BASIS/ORB E	-0.64921
1S 23.53540	0.94316	-0.28729	0.10789	2P 10.64620	0.65540	-0.20979	3D 3.17178	0.30322
1S 34.98000	0.03651	-0.00845	0.00070	2P 16.36250	0.10783	-0.04555	3D 10.35870	0.02738
2S 21.28350	0.02380	-0.14730	0.05186	3P 9.63420	0.26081	-0.18331	3D 5.27105	0.27151
2S 9.91772	0.00968	0.98163	-0.37019	3P 5.96087	0.03310	0.29265	3D 2.34420	0.27314
3S 9.48828	-0.00677	0.14907	-0.22231	3P 3.54740	-0.00410	0.75998	3D 1.44451	0.29910
3S 5.57624	0.00435	0.03263	0.36218	3P 2.11430	0.00130	0.11523		
3S 4.32510	-0.00377	-0.01374	0.38418					
3S 3.28390	0.00108	0.00368	0.45174					

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.11491080E 04 P.E.=-0.22981974E 04 K.E.= 0.11490892E 04 V.T.=-0.20000163E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-241.18711	-29.75143	-4.45559	BASIS/ORB E	-25.45818	-3.12558	BASIS/ORB E	-1.28822
1S 24.60960	0.95341	-0.30345	0.11133	2P 9.58940	0.86124	-0.34473	3D 3.81225	0.26064
1S 37.60670	0.02690	0.00037	-0.00016	2P 16.35810	0.14538	-0.04189	3D 11.17720	0.02958
2S 21.11770	0.02439	-0.16307	0.06578	3P 6.08000	0.00534	-0.15097	3D 5.61570	0.28266
2S 10.66850	0.00659	0.97108	-0.38928	3P 5.28000	0.02723	0.67466	3D 2.40681	0.49017
3S 9.75659	-0.00596	0.18779	-0.21265	3P 3.43000	-0.01814	0.41291	3D 1.46153	0.07830
3S 6.93000	0.00537	0.01398	-0.09233	3P 2.80000	0.00909	0.17697		
3S 5.63000	-0.00315	0.00499	0.66420					
3S 3.64484	0.00036	0.00045	0.61346					

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.12606137E 04 P.E.=-0.25212032E 04 K.E.= 0.12605894E 04 V.T.=-0.20000192E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-262.76235	-33.33575	-5.52161	BASIS/ORB E	-28.81487	-4.08480	BASIS/ORB E	-2.07290
1S 25.87820	0.95034	-0.31119	0.11816	2P 10.01640	0.86416	-0.35861	3D 3.65374	0.45213
1S 38.73300	0.02065	0.00638	-0.00353	2P 17.02370	0.14670	-0.04218	3D 11.50000	0.03091
2S 21.33300	0.04093	-0.18059	0.07101	3P 6.07960	-0.02310	-0.14359	3D 6.09290	0.29860
2S 11.01230	-0.00539	1.03977	-0.41839	3P 5.46810	0.05350	0.70852	3D 2.35365	0.33661
3S 9.50024	0.00795	0.14678	-0.32879	3P 3.47900	-0.02356	0.52562	3D 1.40000	0.00054
3S 6.99020	-0.01014	-0.00306	0.37736	3P 2.80000	0.01110	0.02477		
3S 4.10000	-0.00098	0.00074	0.76904					
3S 5.75647	0.00638	0.00652	0.16869					

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.13776278E 04 P.E.=-0.27552494E 04 K.E.= 0.13776214E 04 V.T.=-0.20000046E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-285.36141	-37.20208	-6.72639	BASIS/ORB E	-32.45174	-5.17934	BASIS/ORB E	-2.98972
1S 26.82720	0.95641	-0.31008	0.11816	2P 11.11190	0.89058	-0.36615	3D 4.52420	0.31047
1S 41.36000	0.01828	0.00416	-0.00183	2P 19.95740	0.07673	-0.02096	3D 12.07030	0.03265
2S 22.00000	0.03562	-0.19746	0.08134	3P 7.16120	0.11333	-0.14943	3D 6.56390	0.26840
2S 12.16050	-0.00301	0.94402	-0.38917	3P 5.70406	-0.05958	0.75675	3D 2.98554	0.48247
3S 10.54700	0.00286	0.27452	-0.29660	3P 3.47910	0.02053	0.57400	3D 1.63000	0.01051
3S 7.00000	-0.00240	-0.01421	0.25891	3P 2.90840	-0.00978	-0.09438		
3S 5.20840	0.00164	0.01773	0.56974					
3S 4.00000	-0.00052	-0.00462	0.40413					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.15001341E 04 P.E.=-0.30002522E 04 K.E.= 0.15001182E 04 V.T.=-0.20000105E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-308.97329	-41.33957	-8.05899	BASIS/ORB E	-36.35816	-6.39937	BASIS/ORB E	-4.03092
1S 27.78100	0.95281	-0.31326	0.12208	2P 11.34410	0.76972	-0.31318	3D 4.63000	0.30571
1S 40.98670	0.02299	0.00491	-0.00258	2P 18.00300	0.15834	-0.05612	3D 12.67910	0.03311
2S 22.66670	0.03493	-0.20649	0.08578	3P 11.35750	0.08549	-0.07590	3D 6.87180	0.30433
2S 12.65000	-0.00418	0.96824	-0.40537	3P 6.18858	0.03072	0.50656	3D 3.29385	0.44610
3S 10.71570	0.00386	0.27221	-0.33710	3P 4.13330	-0.01948	0.62076	3D 1.60000	0.00425
3S 7.25000	-0.00308	-0.03184	0.41897	3P 3.50426	0.00994	0.00431		
3S 4.94586	0.00279	0.03494	0.63618					
3S 4.25000	-0.00150	-0.01763	0.22012					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.16281088E 04 P.E.=-0.32560971E 04 K.E.= 0.16279881E 04 V.T.=-0.20000742E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-333.59322	-45.74211	-9.51405	BASIS/ORB E	-40.52533	-7.73999	BASIS/ORB E	-5.19331
1S 28.74260	0.95352	-0.31941	0.12782	2P 12.11030	0.63702	-0.28579	3D 4.45350	0.56373
1S 42.11330	0.02402	0.00734	-0.00437	2P 16.58670	0.24311	-0.08092	3D 13.00000	0.03389
2S 23.33300	0.03289	-0.20619	0.08382	3P 10.00000	0.19809	-0.14570	3D 7.34380	0.30922
2S 13.14530	-0.00435	0.96856	-0.40410	3P 6.58601	-0.06874	0.60000	3D 3.05775	0.18708
3S 11.41790	0.00366	0.25815	-0.33465	3P 4.31380	0.04256	0.60239	3D 1.88360	-0.00954
3S 7.55000	-0.00262	-0.00573	0.41015	3P 3.04100	-0.01459	-0.01452		
3S 5.03900	0.00303	0.01826	0.82376					
3S 4.51000	-0.00193	-0.01089	0.02844					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(5), 6S
T.E.=-0.17615856E 04 P.E.=-0.35231616E 04 K.E.= 0.17615758E 04 V.T.=-0.20000055E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-359.22955	-50.40762	-11.08952	BASIS/ORB E	-44.96037	-9.20036	BASIS/ORB E	-6.47421
1S 29.71610	0.95418	-0.32559	0.12993	2P 12.19890	0.85260	-0.37551	3D 4.66259	0.62235
1S 43.24000	0.02467	0.00999	-0.00420	2P 19.96580	0.12652	-0.04103	3D 13.50000	0.03297
2S 24.00000	0.03125	-0.20402	0.09008	3P 10.64670	0.03311	-0.06787	3D 7.80000	0.31256
2S 13.24730	-0.00442	1.03507	-0.45310	3P 6.95210	0.02010	0.49766	3D 3.22055	0.11308
3S 11.47710	0.00400	0.18328	-0.31715	3P 4.76125	-0.00470	0.65770	3D 1.80000	-0.00333
3S 7.80000	-0.00302	0.00024	0.45481	3P 2.06309	0.00051	-0.00060		
3S 5.21464	0.00326	0.00768	0.90769					
3S 4.65000	-0.00203	-0.00408	-0.07905					

TABLE 37- 01

*MANGANESE K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.11495204E 04 P.E.=-0.22990175E 04 K.E.= 0.11494970E 04 V.T.=-0.20000204E 01

S				P			D	
BASIS/ORB E	-240.63386	-29.18169	-3.89841	BASIS/ORB E	-24.89044	-2.58022	BASIS/ORB E	-0.66826
1S 24.60960	0.95303	-0.30393	0.11147	2P 9.58940	0.86122	-0.34004	3D 3.72748	0.24367
1S 37.60670	0.02712	0.00061	-0.00059	2P 16.35810	0.14546	-0.04191	3D 11.17720	0.02699
2S 21.11770	0.02501	-0.16232	0.06366	3P 6.08000	0.00087	-0.29995	3D 5.61570	0.26712
2S 10.66850	0.00530	0.96951	-0.38223	3P 5.48000	0.02936	0.78521	3D 2.39020	0.42496
3S 9.75659	-0.00326	0.19258	-0.23193	3P 3.43000	-0.01120	0.49539	3D 1.37000	0.21964
3S 5.73350	0.00183	0.01978	0.43744	3P 2.51098	0.00452	0.13720		
3S 4.14800	-0.00150	-0.00601	0.55687					
3S 3.10000	0.00049	0.00211	0.21072					

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.12616556E 04 P.E.=-0.25233056E 04 K.E.= 0.12616499E 04 V.T.=-0.20000046E 01

S				P			D	
BASIS/ORB E	-262.04585	-32.59652	-4.82931	BASIS/ORB E	-28.07846	-3.40965	BASIS/ORB E	-1.31678
1S 25.68820	0.95318	-0.30545	0.11195	2P 10.04640	0.85796	-0.34676	3D 3.78920	0.37509
1S 38.73300	0.02489	0.00127	0.00004	2P 16.91650	0.14827	-0.04347	3D 11.47070	0.02989
2S 21.33300	0.02988	-0.19222	0.08147	3P 6.70825	0.00157	-0.18903	3D 6.07676	0.27339
2S 11.31230	0.00040	1.00903	-0.41839	3P 5.76576	0.02798	0.67688	3D 2.30361	0.42100
3S 9.10024	0.00029	0.24226	-0.34291	3P 3.61380	-0.01173	0.51009	3D 1.40000	0.04822
3S 6.36825	-0.00044	-0.08827	0.60129	3P 2.80000	0.00531	0.11692		
3S 4.67090	0.00031	0.06731	0.14482					
3S 3.82350	-0.00013	-0.02484	0.58232					

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.13794453E 04 P.E.=-0.27588852E 04 K.E.= 0.13794398E 04 V.T.=-0.20000040E 01

S				P			D	
BASIS/ORB E	-284.50461	-36.31739	-5.92422	BASIS/ORB E	-31.57029	-4.39706	BASIS/ORB E	-2.11384
1S 26.82720	0.95645	-0.31010	0.11807	2P 11.11190	0.89040	-0.36043	3D 5.12420	0.32474
1S 41.36000	0.01826	0.00418	-0.00250	2P 19.95740	0.07680	-0.02052	3D 12.07030	0.03198
2S 22.00000	0.03560	-0.19746	0.07745	3P 7.16120	0.11284	-0.13882	3D 6.77952	0.16692
2S 12.16050	-0.00305	0.94420	-0.37830	3P 5.70406	-0.05861	0.72738	3D 2.90263	0.55772
3S 10.54700	0.00291	0.27391	-0.30860	3P 3.47910	0.02012	0.53695	3D 1.63000	0.04478
3S 7.00000	-0.00243	-0.01342	0.30960	3P 2.90840	-0.00945	-0.03341		
3S 5.20840	0.00167	0.01728	0.45118					
3S 4.00000	-0.00053	-0.00433	0.48331					

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.15028605E 04 P.E.=-0.30057088E 04 K.E.= 0.15028483E 04 V.T.=-0.20000080E 01

S				P			D	
BASIS/ORB E	-307.98427	-40.32091	-7.15910	BASIS/ORB E	-35.34277	-5.52080	BASIS/ORB E	-3.04400
1S 27.78100	0.95288	-0.31331	0.12131	2P 11.34410	0.76967	-0.30770	3D 5.24665	0.28943
1S 40.98670	0.02296	0.00496	-0.00301	2P 18.00300	0.15835	-0.05517	3D 12.67910	0.03200
2S 22.66670	0.03488	-0.20641	0.08307	3P 11.35750	0.08507	-0.07403	3D 7.03842	0.22171
2S 12.65000	-0.00421	0.96822	-0.39691	3P 6.18858	0.03164	0.49969	3D 3.18766	0.54950
3S 10.71570	0.00390	0.27156	-0.34014	3P 4.13330	-0.02007	0.52799	3D 1.60000	0.01815
3S 7.25000	-0.00311	-0.03085	0.44112	3P 3.50426	0.01040	0.10664		
3S 4.94586	0.00281	0.03433	0.49192					
3S 4.25000	-0.00151	-0.01716	0.34711					

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.16318668E 04 P.E.=-0.32635859E 04 K.E.= 0.16317190E 04 V.T.=-0.20000906E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-332.47756	-44.59740	-8.52387	BASIS/ORB E	-39.38295	-6.77122	BASIS/ORB E	-4.10069
1S 28.74260	0.95359	-0.31943	0.12649	2P 12.11030	0.65203	-0.31147	3D 4.55916	0.46030
1S 42.11330	0.02399	0.00739	-0.00455	2P 16.58670	0.23526	-0.06418	3D 13.00000	0.03295
2S 23.33300	0.03283	-0.20608	0.08187	3P 10.00000	0.17349	-0.06796	3D 7.32837	0.29365
2S 13.14530	-0.00437	0.96846	-0.39700	3P 5.90000	-0.04478	0.75237	3D 3.07621	0.31764
3S 11.41790	0.00369	0.25737	-0.33251	3P 3.77202	0.03611	0.41326	3D 1.88360	-0.00629
3S 7.55000	-0.00264	-0.00441	0.42043	3P 2.75600	-0.01497	-0.03438		
3S 5.03900	0.00305	0.01723	0.65213					
3S 4.51000	-0.00195	-0.01010	0.19065					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(6), 5D
T.E.=-0.17665043E 04 P.E.=-0.35330342E 04 K.E.= 0.17665298E 04 V.T.=-0.19999854E 01

S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-357.98821	-49.13847	-10.01152	BASIS/ORB E	-43.69361	-8.14386	BASIS/ORB E	-5.27685
1S 29.71610	0.95426	-0.32562	0.12806	2P 12.19890	0.85204	-0.37842	3D 4.74689	0.49765
1S 43.24000	0.02464	0.01006	-0.00411	2P 19.96580	0.12664	-0.03700	3D 13.50000	0.03296
2S 24.00000	0.03119	-0.20382	0.08896	3P 10.64670	0.03296	-0.04154	3D 7.73719	0.30344
2S 13.24730	-0.00444	1.03473	-0.44711	3P 6.95210	0.02122	0.43003	3D 3.35376	0.25776
3S 11.47710	0.00403	0.18254	-0.30981	3P 4.76125	-0.00479	0.70031	3D 1.80000	-0.00226
3S 7.80000	-0.00304	0.00177	0.45175	3P 2.06309	0.00055	0.00866		
3S 5.21464	0.00328	0.00666	0.76890					
3S 4.65000	-0.00205	-0.00333	0.05915					

TABLE 38- 01

*IRON K(2)L(8)3S(2)3P(6)4S(0)3D(7), 4F
T.E.=-0.12621505E 04 P.E.=-0.25242873E 04 K.E.= 0.12621370E 04 V.T.=-0.20000107E 01

	S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-261.46200	-31.99590	-4.24434	BASIS/ORB E	-27.47992	-2.83670	BASIS/ORB E	-0.70088	
1S	25.87820	0.95063	-0.31123	0.11342	2P	10.08790	0.85976	-0.34658	3D 3.70325	0.34622
1S	38.73300	0.02050	0.00639	-0.00182	2P	17.02370	0.14334	-0.04045	3D 11.50000	0.02802
2S	21.33300	0.04054	-0.18070	0.07574	3P	6.47648	0.02340	-0.10261	3D 6.01822	0.26834
2S	11.01230	-0.00473	1.04040	-0.42596	3P	5.46805	0.00650	0.65500	3D 2.30361	0.35659
3S	9.50024	0.00593	0.14510	-0.27077	3P	3.45397	-0.00621	0.47286	3D 1.40275	0.18568
3S	6.99020	-0.00485	0.00112	0.27302	3P	2.55178	0.00296	0.09517		
3S	3.45600	-0.00055	0.00011	0.36543						
3S	4.94549	0.00220	0.00425	0.63828						

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(7), 4F
T.E.=-0.13805991E 04 P.E.=-0.27611870E 04 K.E.= 0.13805877E 04 V.T.=-0.20000082E 01

	S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-283.76062	-35.54975	-5.20567	BASIS/ORB E	-30.80554	-3.69545	BASIS/ORB E	-1.36625	
1S	26.82720	0.95653	-0.30997	0.11647	2P	11.09630	0.88731	-0.35414	3D 5.14506	0.30878
1S	41.36000	0.01822	0.00411	-0.00218	2P	19.80420	0.07967	-0.02133	3D 12.07030	0.03022
2S	22.00000	0.03550	-0.19784	0.07801	3P	7.47816	0.08976	-0.10192	3D 6.77952	0.15451
2S	12.16050	-0.00295	0.94514	-0.37760	3P	5.66987	-0.02971	0.68449	3D 2.85773	0.53068
3S	10.54700	0.00269	0.27193	-0.29971	3P	3.44359	0.00664	0.50927	3D 1.63000	0.12908
3S	7.00000	-0.00192	-0.00877	0.30576	3P	2.20000	-0.00133	0.00488		
3S	4.96964	0.00113	0.01266	0.61993						
3S	3.65300	-0.00035	-0.00297	0.31618						

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(7), 4F
T.E.=-0.15048192E 04 P.E.=-0.30096331E 04 K.E.= 0.15048140E 04 V.T.=-0.20000035E 01

	S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-307.09807	-39.40752	-6.33009	BASIS/ORB E	-34.43256	-4.71147	BASIS/ORB E	-2.18018	
1S	27.78100	0.95293	-0.31334	0.12116	2P	11.34410	0.76978	-0.30009	3D 5.04665	0.32187
1S	40.98670	0.02294	0.00499	-0.00365	2P	18.00300	0.15835	-0.05537	3D 12.67910	0.03075
2S	22.66670	0.03485	-0.20638	0.07984	3P	11.35750	0.08466	-0.07640	3D 7.03842	0.21411
2S	12.65000	-0.00424	0.96834	-0.38787	3P	6.18858	0.03226	0.50431	3D 2.94252	0.52576
3S	10.71570	0.00393	0.27103	-0.34806	3P	4.13330	-0.02053	0.41913	3D 1.60000	0.03806
3S	7.25000	-0.00314	-0.03019	0.47190	3P	3.50426	0.01081	0.21571		
3S	4.94586	0.00285	0.03382	0.34801						
3S	4.25000	-0.00153	-0.01674	0.46861						

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(7), 4F
T.E.=-0.16347649E 04 P.E.=-0.32693782E 04 K.E.= 0.16346133E 04 V.T.=-0.20000926E 01

	S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-331.46031	-43.55081	-7.59696	BASIS/ORB E	-38.33981	-5.86531	BASIS/ORB E	-3.12954	
1S	28.74260	0.95365	-0.31947	0.12583	2P	12.11030	0.64549	-0.31039	3D 4.55916	0.43110
1S	42.11330	0.02397	0.00744	-0.00500	2P	16.58670	0.23867	-0.06111	3D 13.00000	0.03135
2S	23.33300	0.03279	-0.20600	0.07910	3P	10.00000	0.18140	-0.05897	3D 7.32837	0.28116
2S	13.14530	-0.00440	0.96846	-0.38856	3P	5.90000	-0.06176	0.71074	3D 2.92445	0.36784
3S	11.41790	0.00372	0.25682	-0.33584	3P	3.82528	0.11392	0.41378	3D 1.81345	0.00255
3S	7.55000	-0.00266	-0.00360	0.44131	3P	3.45000	-0.08001	0.00544		
3S	5.03900	0.00309	0.01658	0.47064						
3S	4.51000	-0.00197	-0.00954	0.35601						

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(7), 4F
T.E.=-0.17704675E 04 P.E.=-0.35409275E 04 K.E.= 0.17704599E 04 V.T.=-0.20000041E 01

	S	1S	2S	3S	P	2P	3P	D	3D
BASIS/ORB E	-356.84660	-47.96711	-8.99527	BASIS/ORB E	-42.52528	-7.14917	BASIS/ORB E	-4.20497	
1S	29.71610	0.95433	-0.32565	0.12688	2P	12.19890	0.85126	-0.36065	3D 4.74689	0.46908
1S	43.24000	0.02461	0.01012	-0.00433	2P	19.96580	0.12689	-0.04033	3D 13.50000	0.03169
2S	24.00000	0.03115	-0.20370	0.08692	3P	10.64670	0.03359	-0.06919	3D 7.73719	0.29060
2S	13.24730	-0.00447	1.03460	-0.43951	3P	6.95210	0.02051	0.51041	3D 3.16273	0.31323
3S	11.47710	0.00406	0.18184	-0.30918	3P	4.48685	-0.00374	0.64830	3D 1.63044	-0.00224
3S	7.80000	-0.00306	0.00301	0.46268	3P	1.87500	0.00053	0.00227		
3S	5.21464	0.00332	0.00569	0.60951						
3S	4.65000	-0.00207	-0.00257	0.20913						

TABLE 39- 01

*COBALT K(2)L(8)3S(2)3P(6)4S(0)3D(8), 3F
T.E.=-0.13811278E 04 P.E.=-0.27622437E 04 K.E.= 0.13811158E 04 V.T.=-0.20000085E 01

S	1S	2S	3S
BASIS/ORB E	-283.15143	-34.92390	-4.59616
1S 26.82720	0.95656	-0.31000	0.11681
1S 41.36000	0.01821	0.00411	-0.00269
2S 22.00000	0.03548	-0.19788	0.07545
2S 12.16050	-0.00296	0.94536	-0.37107
3S 10.54700	0.00271	0.27174	-0.30876
3S 7.00000	-0.00193	-0.00876	0.33165
3S 4.96964	0.00114	0.01257	0.56758
3S 3.65300	-0.00035	-0.00285	0.35107

P	2P	3P
BASIS/ORB E	-30.18177	-3.09790
2P 11.10460	0.88688	-0.34890
2P 19.80180	0.07937	-0.02164
3P 7.39268	0.10102	-0.16717
3P 5.89619	-0.04045	0.69773
3P 3.51260	0.00693	0.54048
3P 2.20000	-0.00126	0.02900

D	3D
BASIS/ORB E	-0.73319
3D 5.12420	0.33533
3D 11.16560	0.03776
3D 6.93315	0.10455
3D 2.90263	0.43544
3D 1.63000	0.27086

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(8), 3F
T.E.=-0.15060286E 04 P.E.=-0.30120520E 04 K.E.= 0.15060233E 04 V.T.=-0.20000035E 01

S	1S	2S	3S
BASIS/ORB E	-306.33156	-38.61823	-5.58939
1S 27.78100	0.95297	-0.31337	0.12152
1S 40.98670	0.02292	0.00501	-0.00439
2S 22.66670	0.03482	-0.20640	0.07651
2S 12.65000	-0.00426	0.96852	-0.37930
3S 10.71570	0.00395	0.27068	-0.35891
3S 7.25000	-0.00314	-0.02988	0.50592
3S 4.94586	0.00286	0.03344	0.21983
3S 4.25000	-0.00154	-0.01639	0.57297

P	2P	3P
BASIS/ORB E	-33.64604	-3.98733
2P 11.34410	0.77119	-0.30293
2P 18.00300	0.15789	-0.05246
3P 11.35750	0.08272	-0.06569
3P 6.18858	0.03864	0.43693
3P 4.77395	-0.01976	0.28774
3P 3.48990	0.00468	0.41357

D	3D
BASIS/ORB E	-1.41769
3D 5.04665	0.31692
3D 12.67910	0.02946
3D 7.03842	0.19894
3D 2.85533	0.50880
3D 1.60000	0.10255

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(8), 3F
T.E.=-0.16368014E 04 P.E.=-0.32734719E 04 K.E.= 0.16366702E 04 V.T.=-0.20000801E 01

S	1S	2S	3S
BASIS/ORB E	-330.55013	-42.61441	-6.74448
1S 28.74260	0.95371	-0.31950	0.12579
1S 42.11330	0.02395	0.00746	-0.00566
2S 23.33300	0.03276	-0.20600	0.07580
2S 13.14530	-0.00443	0.96860	-0.37955
3S 11.41790	0.00375	0.25631	-0.34350
3S 7.55000	-0.00267	-0.00299	0.46941
3S 5.03900	0.00311	0.01589	0.29340
3S 4.51000	-0.00199	-0.00894	0.51283

P	2P	3P
BASIS/ORB E	-37.40627	-5.03226
2P 12.11030	0.65110	-0.30322
2P 16.58670	0.23576	-0.06167
3P 10.00000	0.17353	-0.06220
3P 5.90000	-0.04333	0.71804
3P 3.59771	0.04798	0.46222
3P 2.95000	-0.02733	-0.04481

D	3D
BASIS/ORB E	-2.25064
3D 4.55916	0.38068
3D 13.00000	0.02891
3D 7.32837	0.27484
3D 2.92445	0.39587
3D 1.81345	0.05436

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(8), 3F
T.E.=-0.17734662E 04 P.E.=-0.35469254E 04 K.E.= 0.17734592E 04 V.T.=-0.20000038E 01

S	1S	2S	3S
BASIS/ORB E	-355.80597	-46.89824	-8.04467
1S 29.71610	0.95438	-0.32569	0.12629
1S 43.24000	0.02459	0.01016	-0.00477
2S 24.00000	0.03111	-0.20364	0.08428
2S 13.24730	-0.00449	1.03461	-0.43106
3S 11.47710	0.00409	0.18128	-0.31365
3S 7.80000	-0.00308	0.00384	0.48348
3S 5.21464	0.00334	0.00497	0.44342
3S 4.65000	-0.00209	-0.00198	0.35974

P	2P	3P
BASIS/ORB E	-41.45955	-6.21930
2P 12.19890	0.85109	-0.35312
2P 19.96580	0.12694	-0.04043
3P 10.64670	0.03332	-0.07298
3P 6.95210	0.02106	0.52112
3P 4.36601	-0.00381	0.64052
3P 2.10429	0.00076	0.00553

D	3D
BASIS/ORB E	-3.21949
3D 5.05919	0.38284
3D 13.50000	0.03188
3D 7.73719	0.25971
3D 3.16273	0.43355
3D 1.68861	0.01006

TABLE 40- 01

*NICKEL K(2)L(8)3S(2)3P(6)4S(0)3D(9), ^{2}D
T.E.=-0.15065894E 04 P.E.=-0.30131596E 04 K.E.= 0.15065700E 04 V.T.=-0.20000128E 01

S	1S	2S	3S
BASIS/ORB E	-305.70269	-37.97303	-4.96010
1S 27.78100	0.95300	-0.31338	0.11755
1S 40.98670	0.02291	0.00500	-0.00244
2S 22.66670	0.03479	-0.20648	0.08303
2S 12.65000	-0.00425	0.96879	-0.39173
3S 10.71570	0.00393	0.27047	-0.31665
3S 7.25000	-0.00317	-0.03069	0.37281
3S 5.24000	0.00191	0.02347	0.51540
3S 3.85000	-0.00056	-0.00557	0.38276

P	2P	3P
BASIS/ORB E	-33.00297	-3.36981
2P 11.34410	0.77120	-0.30439
2P 18.00300	0.15794	-0.05070
3P 11.35750	0.08275	-0.05949
3P 6.18858	0.03779	0.40495
3P 4.77395	-0.01800	0.36569
3P 3.30240	0.00377	0.36897

D	3D
BASIS/ORB E	-0.76918
3D 5.04665	0.30673
3D 12.67910	0.02832
3D 7.03842	0.18442
3D 2.85533	0.46105
3D 1.55145	0.20851

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(9), ^{2}D
T.E.=-0.16380832E 04 P.E.=-0.32761575E 04 K.E.= 0.16380741E 04 V.T.=-0.20000055E 01

S	1S	2S	3S
BASIS/ORB E	-329.76785	-41.80547	-5.98289
1S 28.74260	0.95389	-0.31935	0.11919
1S 42.11330	0.02384	0.00736	-0.00235
2S 23.33300	0.03250	-0.20637	0.08764
2S 13.14530	-0.00402	0.96942	-0.40352
3S 11.41790	0.00298	0.25505	-0.26401
3S 6.37411	-0.00364	-0.00367	0.83443
3S 5.03900	0.00573	0.01797	-0.66633
3S 4.51000	-0.00313	-0.00956	1.05160

P	2P	3P
BASIS/ORB E	-36.60377	-4.28728
2P 12.19710	0.84454	-0.34874
2P 20.35080	0.09168	-0.02334
3P 10.05360	0.09177	-0.04252
3P 5.90836	0.00687	0.69680
3P 3.56448	-0.00162	0.44951
3P 2.54300	0.00092	-0.01405

D	3D
BASIS/ORB E	-1.47157
3D 4.53237	0.40000
3D 13.00000	0.02926
3D 7.28692	0.25690
3D 2.70243	0.36740
3D 1.82861	0.10338

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(9), ^{2}D
T.E.=-0.17755800E 04 P.E.=-0.35511692E 04 K.E.= 0.17755891E 04 V.T.=-0.19999948E 01

S	1S	2S	3S
BASIS/ORB E	-354.87395	-45.94032	-7.16917
1S 29.71610	0.95443	-0.32572	0.12624
1S 43.24000	0.02457	0.01019	-0.00539
2S 24.00000	0.03108	-0.20362	0.08125
2S 13.24730	-0.00450	1.03472	-0.42230
3S 11.47710	0.00411	0.18085	-0.32213
3S 7.80000	-0.00309	0.00436	0.51111
3S 5.21464	0.00336	0.00441	0.28141
3S 4.65000	-0.00210	-0.00148	0.50228

P	2P	3P
BASIS/ORB E	-40.50472	-5.36284
2P 12.19890	0.85092	-0.34731
2P 19.96580	0.12703	-0.04032
3P 10.64670	0.03328	-0.07501
3P 6.95210	0.02109	0.52666
3P 4.27494	-0.00356	0.63514
3P 2.10429	0.00082	0.01105

D	3D
BASIS/ORB E	-2.32310
3D 5.39016	0.33216
3D 13.50000	0.03178
3D 7.73719	0.22709
3D 3.16273	0.50083
3D 1.68861	0.04641

TABLE 41- 01

*COPPER K(2)L(8)3S(2)3P(6)4S(0)3D(10), 1S
T.E.=-0.16387275E 04 P.E.=-0.32774594E 04 K.E.= 0.16387319E 04 V.T.=-0.19999973E 01

S				P			D	
BASIS/ORB E	1S -329.10713	2S -41.12777	3S -5.32484	BASIS/ORB E	2P -35.92834	3P -3.64154	BASIS/ORB E	3D -0.80989
1S 28.74260	0.95404	-0.31912	0.11799	2P 12.24450	0.76061	-0.27633	3D 4.75350	0.33247
1S 42.11330	0.02376	0.00722	-0.00198	2P 19.33670	0.12783	-0.04896	3D 13.34840	0.02485
2S 23.33300	0.03230	-0.20687	0.08825	3P 11.88720	0.11992	-0.12179	3D 7.39646	0.23254
2S 13.14530	-0.00374	0.97047	-0.40328	3P 7.22868	0.03532	0.34649	3D 2.96660	0.36282
3S 11.41790	0.00260	0.25351	-0.26262	3P 4.55105	-0.00704	0.68508	3D 1.70980	0.23567
3S 6.66300	-0.00158	0.00202	0.58665	3P 2.84090	0.00224	0.13769		
3S 4.57111	0.00123	0.00537	0.52545					
3S 3.50000	-0.00049	-0.00181	0.11124					

*ZINC K(2)L(8)3S(2)3P(6)4S(0)3D(10), 1S
T.E.=-0.17769579E 04 P.E.=-0.35539088E 04 K.E.= 0.17769509E 04 V.T.=-0.20000038E 01

S				P			D	
BASIS/ORB E	1S -354.05747	2S -45.10149	3S -6.38022	BASIS/ORB E	2P -39.66870	3P -4.59014	BASIS/ORB E	3D -1.53376
1S 29.71610	0.95472	-0.32582	0.12082	2P 12.19890	0.85065	-0.34083	3D 5.08476	0.38365
1S 43.24000	0.02440	0.01024	-0.00271	2P 19.96580	0.12717	-0.04089	3D 13.50000	0.02960
2S 24.00000	0.03066	-0.20351	0.09034	3P 10.64670	0.03363	-0.08138	3D 7.80000	0.22262
2S 13.24730	-0.00383	1.03462	-0.44098	3P 6.95210	0.02047	0.54197	3D 2.94647	0.41115
3S 11.47710	0.00286	0.18128	-0.24794	3P 4.17210	-0.00286	0.62715	3D 1.87978	0.11201
3S 6.96000	-0.00189	0.00582	0.64533	3P 1.85690	0.00067	0.01291		
3S 4.53000	0.00277	0.00186	0.54521					
3S 4.08647	-0.00190	-0.00070	0.04996					

TABLE 42- 01

*ZINC K(2)L(8)3S(2)3P(6)4S(1)3D(10), 2S
T.E.=-0.17775664E 04 P.E.=-0.35551272E 04 K.E.= 0.17775609E 04 V.T.=-0.20000029E 01

S	1S	2S	3S	4S
BASIS/ORB E	-353.64617	-44.69911	-5.97687	-0.61190
1S 29.71610	0.95445	-0.32584	0.12070	-0.02595
1S 43.24000	0.02456	0.01025	-0.00256	-0.00052
2S 24.00000	0.03107	-0.20350	0.09093	-0.02503
2S 13.24730	-0.00453	1.03462	-0.44249	0.11125
3S 11.47710	0.00399	0.18147	-0.24569	0.04484
3S 6.86000	-0.00627	0.00530	0.71024	-0.03793
3S 5.63000	0.00581	0.00124	0.19623	-0.27352
4S 4.97681	-0.00138	0.00024	0.35116	0.03946
4S 2.12536	0.00015	0.00002	0.00772	0.62855
4S 1.31187	-0.00012	-0.00001	-0.00373	0.46350
4S 0.92185	0.00005	0.	0.00151	-0.03088

P	2P	3P
BASIS/ORB E	-39.26364	-4.18150
2P 12.19890	0.85048	-0.34343
2P 19.96580	0.12721	-0.04003
3P 10.64670	0.03412	-0.07351
3P 6.89382	0.02027	0.54310
3P 4.17211	-0.00304	0.61779
3P 1.85687	0.00069	0.01652

D	3D
BASIS/ORB E	-1.12495
3D 4.93438	0.36280
3D 13.87230	0.02614
3D 7.73460	0.24874
3D 3.00000	0.39478
3D 1.76906	0.13520

*GALLIUM K(2)L(8)M(18)4S(2), 1S
T.E.=-0.19230586E 04 P.E.=-0.38461041E 04 K.E.= 0.19230454E 04 V.T.=-0.20000068E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-379.12122	-48.47108	-6.69740	-0.68807	BASIS/ORB E	-42.79615	-4.78362	BASIS/ORB E	-1.49531
1S 29.93430	0.76495	-0.33336	0.12679	-0.03906	2P 12.87170	0.83733	-0.34413	3D 3.55346	0.43170
1S 35.28420	0.21226	0.00943	-0.00331	0.00680	2P 20.66680	0.11987	-0.03721	3D 2.14079	0.15408
2S 25.91430	0.03349	-0.16203	0.06878	-0.01285	3P 10.95880	0.06088	-0.09690	3D 5.70450	0.31771
2S 13.15630	-0.00634	1.06305	-0.44280	0.10313	3P 7.57429	0.01312	0.43754	3D 8.25432	0.21774
3S 12.43000	0.00516	0.09863	-0.22357	0.07715	3P 4.95505	-0.00071	0.59376	3D 14.24930	0.02821
3S 7.52398	-0.00213	0.02622	0.52492	-0.17955	3P 3.45976	0.00049	0.15798		
3S 4.95872	0.00088	-0.00491	0.69824	-0.17349					
4S 2.58110	-0.00026	0.00144	0.01145	0.49785					
4S 1.59885	0.00020	-0.00105	-0.00464	0.58706					
4S 1.02993	-0.00008	0.00041	0.00146	0.01641					

*GERMANIUM K(2)L(8)M(18)4S(2)4P(1), 2P
T.E.=-0.20750858E 04 P.E.=-0.41501653E 04 K.E.= 0.20750795E 04 V.T.=-0.20000029E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-405.58294	-52.48747	-7.52760	-0.84415	BASIS/ORB E	-46.57287	-5.49660	-0.56448	BASIS/ORB E	-1.97048
1S 30.75400	0.75819	-0.31613	0.11608	-0.03268	2P 13.20000	0.85883	-0.34766	0.07968	3D 3.76498	0.44006
1S 36.38020	0.22250	-0.00684	0.00714	-0.00090	2P 21.57860	0.11779	-0.04042	0.00827	3D 2.32864	0.11535
2S 26.68990	0.02896	-0.17456	0.07822	-0.02049	3P 12.74000	0.02091	-0.07127	0.01499	3D 6.04557	0.34192
2S 13.96520	-0.00524	1.02741	-0.43934	0.11818	3P 8.03049	0.03892	0.36200	-0.08631	3D 8.75770	0.20912
3S 12.73000	0.00439	0.15555	-0.24883	0.08110	3P 5.20522	-0.01048	0.73046	-0.19140	3D 14.75000	0.02851
3S 7.80637	-0.00224	0.01663	0.53335	-0.18003	4P 3.76476	0.00374	0.07793	0.05585		
3S 5.21033	0.00103	-0.00172	0.69674	-0.21692	4P 2.07795	-0.00153	-0.00462	0.63172		
4S 2.98690	-0.00036	0.00059	0.01075	0.40064	4P 1.26000	0.00084	0.00283	0.43718		
4S 1.93414	0.00027	-0.00039	-0.00315	0.63455	4P 0.77000	-0.00029	-0.00090	-0.02659		
4S 1.28343	-0.00010	0.00013	0.00086	0.08065						

*ARSENIC K(2)L(8)M(18)4S(2)4P(2), 3P
T.E.=-0.22338877E 04 P.E.=-0.44677673E 04 K.E.= 0.22338796E 04 V.T.=-0.20000035E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.95873	-56.68065	-8.39899	-1.00307	BASIS/ORB E	-50.52416	-6.24837	-0.67334	BASIS/ORB E	-2.48098
1S 31.04000	0.78156	-0.35014	0.13421	-0.04012	2P 14.19280	0.79927	-0.32821	0.08354	3D 4.12529	0.46345
1S 38.23270	0.21782	0.00977	-0.00219	0.00173	2P 22.35000	0.11069	-0.03819	0.00823	3D 2.57166	0.10443
2S 26.01070	0.00395	-0.18786	0.08509	-0.02334	3P 13.40000	0.09666	-0.09962	0.02234	3D 6.49000	0.30614
2S 15.09690	0.00073	0.98817	-0.42700	0.12159	3P 8.29532	0.03543	0.35772	-0.09022	3D 9.00292	0.21888
3S 13.32530	0.00042	0.23861	-0.28176	0.09683	3P 5.52393	-0.01040	0.71882	-0.21626	3D 15.25000	0.03076
3S 8.06000	-0.00052	0.00961	0.52668	-0.19023	4P 4.25695	0.00373	0.08838	0.04033		
3S 5.47765	0.00025	0.00082	0.70023	-0.23669	4P 2.38894	-0.00137	-0.00110	0.57623		
4S 3.12763	-0.00010	-0.00026	0.01082	0.45910	4P 1.51872	0.00082	0.00168	0.48148		
4S 2.07067	0.00008	0.00022	-0.00362	0.58775	4P 1.02098	-0.00029	-0.00054	0.00262		
4S 1.40854	-0.00003	-0.00009	0.00110	0.07234						

*ARSENIC K(2)L(8)M(18)4S(2)4P(2), 1D
T.E.=-0.22338389E 04 P.E.=-0.44676670E 04 K.E.= 0.22338279E 04 V.T.=-0.20000049E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.96795	-56.68940	-8.40749	-1.00811	BASIS/ORB E	-50.53292	-6.25675	-0.62673	BASIS/ORB E	-2.48947
1S 31.04000	0.78157	-0.35012	0.13408	-0.03972	2P 14.19280	0.79927	-0.32819	0.08397	3D 4.18248	0.46862
1S 38.23270	0.21782	0.00975	-0.00210	0.00138	2P 22.35000	0.11069	-0.03818	0.00780	3D 2.57166	0.11097
2S 26.01070	0.00394	-0.18788	0.08520	-0.02379	3P 13.40000	0.09666	-0.09959	0.02040	3D 6.49000	0.28977
2S 15.09690	0.00073	0.98820	-0.42719	0.12240	3P 8.29532	0.03544	0.35765	-0.08551	3D 9.00292	0.22443
3S 13.32530	0.00042	0.23858	-0.28152	0.09619	3P 5.52393	-0.01041	0.71875	-0.22091	3D 15.25000	0.03020
3S 8.06000	-0.00051	0.00964	0.52629	-0.18962	4P 4.25695	0.00375	0.08842	0.04805		
3S 5.47765	0.00024	0.00079	0.70068	-0.23756	4P 2.40198	-0.00138	-0.00093	0.54871		
4S 3.07817	-0.00009	-0.00023	0.01073	0.50823	4P 1.51872	0.00080	0.00190	0.49312		
4S 1.99595	0.00008	0.00022	-0.00403	0.56587	4P 1.02098	-0.00029	-0.00054	0.02215		
4S 1.40854	-0.00003	-0.00010	0.00142	0.04405						

TABLE 43- 02

*ARSENIC K(2)L(8)M(18)4S(2)4P(2), 1S
T.E.=-0.22337675E 04 P.E.=-0.44675244E 04 K.E.= 0.22337569E 04 V.T.=-0.20000046E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-432.98225	-56.70318	-8.42073	-1.01595	BASIS/ORB E	-50.54671	-6.26982	-0.55962	BASIS/ORB E	-2.50268
1S 31.04000	0.78159	-0.35011	0.13404	-0.04044	2P 14.19280	0.79931	-0.32841	0.08011	3D 4.16673	0.45531
1S 38.23270	0.21781	0.00974	-0.00207	0.00185	2P 22.35000	0.11067	-0.03808	0.00877	3D 2.64436	0.11611
2S 26.01070	0.00393	-0.18789	0.08524	-0.02328	3P 13.40000	0.09659	-0.09909	0.02535	3D 6.49000	0.30083
2S 15.09690	0.00074	0.98822	-0.42725	0.12181	3P 8.29532	0.03554	0.35632	-0.09680	3D 9.00292	0.22027
3S 13.32530	0.00041	0.23856	-0.28145	0.09776	3P 5.52393	-0.01050	0.72084	-0.19982	3D 15.25000	0.03067
3S 8.06000	-0.00050	0.00965	0.52619	-0.19271	4P 4.22004	0.00396	0.08822	0.01550		
3S 5.47765	0.00024	0.00078	0.70081	-0.23494	4P 2.54964	-0.00148	-0.00208	0.49862		
4S 3.05600	-0.00009	-0.00023	0.01080	0.52074	4P 1.51872	0.00071	0.00270	0.55993		
4S 1.99271	0.00008	0.00022	-0.00429	0.54962	4P 1.02098	-0.00027	-0.00069	0.03890		
4S 1.40854	-0.00003	-0.00010	0.00151	0.04675						

*SELENIUM K(2)L(8)M(18)4S(2)4P(3), 4S
T.E.=-0.23995580E 04 P.E.=-0.47991178E 04 K.E.= 0.23995598E 04 V.T.=-0.19999991E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-461.24882	-61.04874	-9.31086	-1.16701	BASIS/ORB E	-54.64839	-7.03879	-0.78642	BASIS/ORB E	-3.02740
1S 32.72190	0.84865	-0.35910	-0.13584	-0.04165	2P 14.59520	0.80935	-0.33276	0.08665	3D 4.49483	0.48354
1S 40.36390	0.14203	0.02383	0.00534	0.00200	2P 23.23490	0.10909	-0.03958	0.01068	3D 2.77883	0.09810
2S 26.88000	0.01612	-0.19522	-0.09302	-0.02795	3P 14.46870	0.07889	-0.09063	0.02847	3D 7.05692	0.31542
2S 15.29700	-0.00276	1.03283	0.46005	0.13963	3P 8.60000	0.04982	0.33716	-0.10770	3D 9.67514	0.18825
3S 13.48000	0.00236	0.18990	0.26675	0.09655	3P 5.76931	-0.01907	0.74831	-0.21688	3D 15.75000	0.02976
3S 8.33000	-0.00142	0.01054	-0.55366	-0.20696	4P 4.20341	0.00869	0.07332	0.00372		
3S 5.69057	0.00068	-0.00020	-0.68672	-0.25291	4P 2.74611	-0.00540	-0.00879	0.54596		
4S 3.27538	-0.00024	0.00010	-0.00516	0.53190	4P 1.71019	0.00459	0.00654	0.55138		
4S 2.15821	0.00020	-0.00009	-0.	0.54249	4P 1.43647	-0.00263	-0.00353	-0.00911		
4S 1.54239	-0.00008	0.00003	0.00010	0.05132						

*SELENIUM K(2)L(8)M(18)4S(2)4P(3), 2D
T.E.=-0.23994773E 04 P.E.=-0.47989535E 04 K.E.= 0.23994762E 04 V.T.=-0.20000003E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-461.26179	-61.06109	-9.32255	-1.17366	BASIS/ORB E	-54.66077	-7.05031	-0.73652	BASIS/ORB E	-3.03908
1S 32.72190	0.84867	-0.35912	-0.13582	-0.04021	2P 14.59520	0.80974	-0.33119	0.08822	3D 4.47980	0.48271
1S 40.36390	0.14201	0.02384	0.00533	0.00088	2P 23.23490	0.10895	-0.04009	0.01000	3D 2.77883	0.09597
2S 26.88000	0.01610	-0.19520	-0.09304	-0.02942	3P 14.46870	0.07834	-0.09291	0.02553	3D 7.05692	0.31943
2S 15.29700	-0.00273	1.03281	0.46009	0.14226	3P 8.60000	0.05084	0.34277	-0.10062	3D 9.67514	0.18686
3S 13.48000	0.00233	0.18992	0.26671	0.09313	3P 5.76931	-0.02061	0.73834	-0.22717	3D 15.75000	0.02992
3S 8.33000	-0.00138	0.01052	-0.55362	-0.20117	4P 4.43997	0.00881	0.07238	0.02217		
3S 5.69057	0.00064	-0.00018	-0.68679	-0.25982	4P 2.71499	-0.00454	0.00135	0.54006		
4S 3.23924	-0.00021	0.00009	-0.00522	0.58990	4P 1.71019	0.00426	0.00015	0.48229		
4S 2.02917	0.00020	-0.00009	0.00024	0.55025	4P 1.43647	-0.00245	0.00032	0.06057		
4S 1.54239	-0.00010	0.00004	-0.00002	-0.01356						

*SELENIUM K(2)L(8)M(18)4S(2)4P(3), 2P
T.E.=-0.23994243E 04 P.E.=-0.47988454E 04 K.E.= 0.23994210E 04 V.T.=-0.20000012E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-461.27070	-61.06961	-9.33054	-1.17821	BASIS/ORB E	-54.66932	-7.05821	-0.70400	BASIS/ORB E	-3.04708
1S 32.72190	0.84867	-0.35913	-0.13584	-0.04156	2P 14.59520	0.80975	-0.33115	0.08814	3D 4.46778	0.48205
1S 40.36390	0.14201	0.02385	0.00534	0.00185	2P 23.23490	0.10895	-0.04008	0.00993	3D 2.77883	0.09427
2S 26.88000	0.01610	-0.19520	-0.09303	-0.02824	3P 14.46870	0.07832	-0.09289	0.02527	3D 7.05692	0.32263
2S 15.29700	-0.00275	1.03282	0.46008	0.14039	3P 8.60000	0.05088	0.34271	-0.09986	3D 9.67514	0.18573
3S 13.48000	0.00235	0.18992	0.26674	0.09629	3P 5.76931	-0.02065	0.73823	-0.22756	3D 15.75000	0.03005
3S 8.33000	-0.00141	0.01052	-0.55371	-0.20652	4P 4.43997	0.00887	0.07238	0.02317		
3S 5.69057	0.00067	-0.00019	-0.68672	-0.25497	4P 2.72689	-0.00456	0.00161	0.53287		
4S 3.27732	-0.00024	0.00010	-0.00509	0.53650	4P 1.71019	0.00421	0.00038	0.45580		
4S 2.15773	0.00020	-0.00008	-0.	0.53956	4P 1.43647	-0.00244	0.00040	0.09825		
4S 1.54239	-0.00008	0.00003	0.00009	0.05052						

*BROMINE K(2)L(8)M(18)4S(2)4P(4), 3P
T.E.=-0.25720446E 04 P.E.=-0.51440904E 04 K.E.= 0.25720458E 04 V.T.=-0.19999994E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-490.47312	-65.61089	-10.28082	-1.34673	BASIS/ORB E	-58.96483	-7.88558	-0.83788	BASIS/ORB E	-3.62821
1S 33.78930	0.83795	-0.39732	-0.15221	-0.04632	2P 15.62390	0.74035	-0.31124	0.08907	3D 4.76610	0.46841
1S 40.87220	0.15086	0.05368	0.01700	0.00400	2P 23.84370	0.10990	-0.03938	0.00982	3D 3.03255	0.09074
2S 26.22760	0.02184	-0.22830	-0.11300	-0.03827	3P 15.09530	0.15597	-0.11670	0.03176	3D 7.27608	0.32248
2S 16.06790	-0.00815	1.06700	0.48886	0.15975	3P 8.54200	0.05092	0.41261	-0.12284	3D 10.07920	0.19572
3S 13.63000	0.00529	0.20462	0.28441	0.10050	3P 5.83305	-0.02555	0.68537	-0.23763	3D 16.25000	0.02997
3S 8.68515	-0.00313	0.00145	-0.56687	-0.20475	4P 4.66970	0.01077	0.04488	0.04841		
3S 5.95000	0.00146	0.00267	-0.69213	-0.29249	4P 2.85744	-0.00445	0.00542	0.58007		
4S 3.58746	-0.00047	-0.00061	-0.00280	0.50669	4P 1.79813	0.00257	-0.00154	0.48154		
4S 2.35034	0.00031	0.00034	-0.00179	0.59728	4P 1.30254	-0.00103	0.00077	0.01305		
4S 1.49728	-0.00010	-0.00011	0.00052	0.03780						

*BROMINE K(2)L(8)M(18)4S(2)4P(4), 1D -0.25719868E+0
T.E.=-0.25719868E 04 P.E.=-0.51439735E 04 K.E.= 0.25719865E 04 V.T.=-0.20000000E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-490.48141	-65.61876	-10.28822	-1.35096	BASIS/ORB E	-58.97272	-7.89286	-0.81206	BASIS/ORB E	-3.63562
1S 33.78930	0.83798	-0.39733	-0.15223	-0.04631	2P 15.62390	0.74008	-0.31174	0.08829	3D 4.76610	0.46863
1S 40.87220	0.15084	0.05369	0.01702	0.00397	2P 23.84370	0.11001	-0.03915	0.01014	3D 3.03255	0.09052
2S 26.22760	0.02182	-0.22829	-0.11298	-0.03836	3P 15.09530	0.15632	-0.11585	0.03297	3D 7.27608	0.32237
2S 16.06790	-0.00813	1.06700	0.48885	0.15998	3P 8.54200	0.05008	0.40992	-0.12669	3D 10.07920	0.19580
3S 13.63000	0.00527	0.20462	0.28444	0.10048	3P 5.83305	-0.02415	0.69004	-0.23064	3D 16.25000	0.02996
3S 8.68515	-0.00311	0.00145	-0.56692	-0.20486	4P 4.50728	0.01049	0.04418	0.04220		
3S 5.95000	0.00145	0.00266	-0.69210	-0.29273	4P 2.89172	-0.00503	0.00276	0.56396		
4S 3.57821	-0.00047	-0.00061	-0.00282	0.51469	4P 1.79813	0.00267	0.00039	0.49856		
4S 2.34105	0.00030	0.00034	-0.00175	0.59125	4P 1.30254	-0.00107	0.00021	0.01709		
4S 1.49728	-0.00010	-0.00011	0.00051	0.03579						

*BROMINE K(2)L(8)M(18)4S(2)4P(4), 1S -0.25719012E+0
T.E.=-0.25719012E 04 P.E.=-0.51438022E 04 K.E.= 0.25719009E 04 V.T.=-0.20000000E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-490.49390	-65.63063	-10.29937	-1.35737	BASIS/ORB E	-58.98462	-7.90382	-0.77399	BASIS/ORB E	-3.64679
1S 33.78930	0.83795	-0.39732	-0.15222	-0.04586	2P 15.62390	0.73948	-0.31265	0.08938	3D 4.76610	0.46898
1S 40.87220	0.15087	0.05369	0.01700	0.00358	2P 23.84370	0.11024	-0.03874	0.00975	3D 3.03255	0.09017
2S 26.22760	0.02185	-0.22829	-0.11300	-0.03901	3P 15.09530	0.15709	-0.11437	0.03154	3D 7.27608	0.32217
2S 16.06790	-0.00817	1.06699	0.48888	0.16122	3P 8.54200	0.04842	0.40561	-0.12334	3D 10.07920	0.19592
3S 13.63000	0.00533	0.20465	0.28441	0.09877	3P 5.83305	-0.02160	0.69710	-0.23565	3D 16.25000	0.02995
3S 8.68515	-0.00319	0.00139	-0.56692	-0.20053	4P 4.21066	0.00988	0.04547	0.07496		
3S 5.95000	0.00152	0.00272	-0.69210	-0.29968	4P 2.83675	-0.00613	-0.00396	0.53882		
4S 3.65782	-0.00050	-0.00063	-0.00255	0.47131	4P 1.79813	0.00317	0.00396	0.47436		
4S 2.40345	0.00031	0.00033	-0.00199	0.62700	4P 1.30254	-0.00122	-0.00081	0.04153		
4S 1.49728	-0.00009	-0.00010	0.00052	0.04755						

*KRYPTON K(2)L(8)M(18)4S(2)4P(5), 2P
T.E.=-0.27515666E 04 P.E.=-0.55031172E 04 K.E.= 0.27515505E 04 V.T.=-0.20000058E 01

S	1S	2S	3S	4S	P	2P	3P	4P	D	3D
BASIS/ORB E	-520.60966	-70.34502	-11.28839	-1.53139	BASIS/ORB E	-63.45144	-8.76876	-0.91558	BASIS/ORB E	-4.26339
1S 34.27260	0.73841	-0.41690	-0.15551	-0.04949	2P 16.33630	0.74416	-0.31727	0.09256	3D 5.22488	0.48495
1S 40.40000	0.25204	0.06490	0.01676	0.00434	2P 24.85430	0.09653	-0.03419	0.00973	3D 3.34983	0.10369
2S 26.81570	0.02020	-0.21850	-0.11589	-0.04003	3P 15.44510	0.16605	-0.12602	0.04000	3D 7.68953	0.26827
2S 16.44720	-0.00879	1.08050	0.50991	0.17165	3P 9.18326	0.04788	0.32373	-0.11053	3D 10.31620	0.21297
3S 13.96310	0.00591	0.18814	0.27069	0.10173	3P 6.42050	-0.02044	0.74530	-0.25081	3D 16.73790	0.03113
3S 8.89765	-0.00376	0.00225	-0.57158	-0.21547	4P 5.03193	0.00785	0.08450	-0.01792		
3S 6.22432	0.00189	0.00213	-0.68415	-0.30508	4P 3.29161	-0.00316	-0.00203	0.53229		
4S 3.80174	-0.00064	-0.00052	-0.00523	0.50187	4P 2.03310	0.00121	0.00280	0.55829		
4S 2.56514	0.00045	0.00029	-0.00059	0.57820	4P 1.31329	-0.00038	-0.00054	0.03345		
4S 1.73148	-0.00015	-0.00010	0.00006	0.06738						

*SCANDIUM K(2)L(8)3S(2)3P(6)4S(2), 1S
T.E.=-0.75946196E 03 P.E.=-0.15189218E 04 K.E.= 0.75945987E 03 V.T.=-0.20000026E 01

S	1S	2S	3S	4S
BASIS/ORB E	-166.38406	-19.59999	-3.04421	-0.48719
1S 20.87910	0.94503	-0.28835	0.10228	-0.03002
1S 33.10000	0.02063	-0.00029	0.00064	-0.00067
2S 18.00780	0.04361	-0.14980	0.06143	-0.02034
2S 8.38980	0.00316	1.03339	-0.41427	0.13049
3S 6.93980	-0.00241	0.12768	-0.25810	0.07388
3S 4.73540	0.00271	-0.02724	0.54399	-0.11879
3S 3.20865	-0.00297	0.03114	0.64355	-0.39576
4S 3.22655	0.00157	-0.01556	0.08357	0.11384
4S 1.55828	-0.00014	0.00134	0.00450	0.75881
4S 1.06025	0.00010	-0.00094	-0.00173	0.32039
4S 0.72489	-0.00003	0.00031	0.00038	-0.01208

P	2P	3P
BASIS/ORB E	-16.18216	-2.02886
2P 9.58918	0.68477	-0.23937
2P 16.47600	0.04663	-0.01526
3P 7.86514	0.31886	-0.14759
3P 4.09480	0.01384	0.45462
3P 2.84367	-0.00495	0.55590
3P 2.07584	0.00119	0.10886

*TITANIUM K(2)L(8)3S(2)3P(6)4S(2)3D(1), ^{2}D
T.E.=-0.84805582E 03 P.E.=-0.16961104E 04 K.E.= 0.84805469E 03 V.T.=-0.20000012E 01

S	1S	2S	3S	4S
BASIS/ORB E	-183.78685	-21.97160	-3.37670	-0.51144
1S 21.78320	0.95007	-0.29357	0.10552	-0.02974
1S 34.57420	0.02159	0.00007	0.00052	-0.00091
2S 18.70590	0.03593	-0.15418	0.06420	-0.02182
2S 8.93073	0.00432	1.02684	-0.41698	0.13102
3S 7.55800	-0.00364	0.13733	-0.23984	0.05811
3S 4.83162	0.00529	-0.02496	0.62016	-0.06390
3S 3.37930	-0.00720	0.03841	0.48379	-0.51643
4S 3.48770	0.00393	-0.02028	0.14853	0.22376
4S 1.58777	-0.00022	0.00111	0.00306	0.82822
4S 0.99849	0.00027	-0.00134	-0.00115	0.29045
4S 0.83451	-0.00016	0.00080	0.00043	-0.06408

P	2P	3P
BASIS/ORB E	-18.33445	-2.27615
2P 10.00000	0.69309	-0.23973
2P 16.79230	0.05373	-0.02047
3P 8.32711	0.29916	-0.16859
3P 4.73525	0.01285	0.40214
3P 2.99170	-0.00150	0.71801
3P 1.52669	0.00017	0.02263

D	3D
BASIS/ORB E	-0.89319
3D 2.00104	0.48850
3D 8.46951	0.04281
3D 4.57461	0.22366
3D 3.23213	0.32240
3D 1.21198	0.04975

*VANADIUM K(2)L(8)3S(2)3P(6)4S(2)3D(2), ^{3}F
T.E.=-0.94249770E 03 P.E.=-0.18849946E 04 K.E.= 0.94249687E 03 V.T.=-0.20000008E 01

S	1S	2S	3S	4S
BASIS/ORB E	-202.03746	-24.44270	-3.70629	-0.53318
1S 22.77630	0.95167	-0.29859	0.10792	-0.02973
1S 36.05340	0.02118	0.00143	0.00027	-0.00083
2S 19.54100	0.03448	-0.15272	0.06535	-0.02168
2S 9.19159	0.00431	1.07659	-0.44456	0.13643
3S 7.88880	-0.00396	0.06214	-0.22342	0.05014
3S 5.12985	0.00581	0.03232	0.65791	-0.05780
3S 3.90220	-0.00596	-0.02566	0.29855	-0.38918
4S 3.75000	0.00223	0.00995	0.31497	0.08964
4S 1.65760	-0.00015	-0.00061	0.00501	0.84118
4S 0.99474	0.00010	0.00043	-0.00222	0.25350
4S 0.67649	-0.00004	-0.00018	0.00081	-0.03962

P	2P	3P
BASIS/ORB E	-20.58523	-2.52076
2P 10.53300	0.65873	-0.22658
2P 16.60760	0.07250	-0.02923
3P 9.04882	0.30736	-0.17811
3P 5.12347	0.02303	0.38339
3P 3.21233	-0.00458	0.73302
3P 1.69781	0.00087	0.02813

D	3D
BASIS/ORB E	-1.01284
3D 2.91560	0.38362
3D 9.71589	0.03323
3D 4.84622	0.32321
3D 2.05556	0.34592
3D 1.20004	0.04125

*CHROMIUM K(2)L(8)3S(2)3P(6)4S(2)3D(3), ^{4}F
T.E.=-0.10428888E 04 P.E.=-0.20857742E 04 K.E.= 0.10428853E 04 V.T.=-0.20000034E 01

S	1S	2S	3S	4S
BASIS/ORB E	-221.14801	-27.02746	-4.04255	-0.55395
1S 23.53540	0.94295	-0.28736	0.10820	-0.02908
1S 34.98000	0.03661	-0.00842	0.00196	-0.00138
2S 21.28350	0.02399	-0.14700	0.05621	-0.01790
2S 9.64593	0.01008	1.05058	-0.41464	0.12255
3S 9.23438	-0.00788	0.07283	-0.20486	0.05598
3S 5.80330	0.00453	0.02749	0.33520	-0.07516
3S 4.02510	-0.00316	-0.00635	0.80326	-0.33475
4S 3.28393	0.00115	0.00186	0.07671	0.07911
4S 1.72262	-0.00037	-0.00032	0.00037	0.80226
4S 0.99891	0.00062	0.00043	-0.00058	0.48053
4S 0.89513	-0.00046	-0.00031	0.00045	-0.24275

P	2P	3P
BASIS/ORB E	-22.94834	-2.77107
2P 10.66740	0.65200	-0.21258
2P 16.36250	0.10773	-0.04787
3P 9.63424	0.26638	-0.19351
3P 5.87723	0.03124	0.32285
3P 3.50916	-0.00396	0.80192
3P 1.81584	0.00083	0.03848

D	3D
BASIS/ORB E	-1.10180
3D 3.37000	0.33788
3D 10.34420	0.03263
3D 5.27579	0.29907
3D 2.25551	0.41803
3D 1.26450	0.04119

*MANGANESE K(2)L(8)3S(2)3P(6)4S(2)3D(4), 5D
T.E.=-0.11493681E 04 P.E.=-0.22987212E 04 K.E.= 0.11493531E 04 V.T.=-0.20000131E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-241.11812	-29.72705	-4.38609	-0.57392	BASIS/ORB E	-25.42469	-3.02777	BASIS/ORB E	-1.18076
1S 24.60960	0.95290	-0.30422	0.11174	-0.02998	2P 9.58940	0.85731	-0.34742	3D 3.72390	0.31969
1S 37.60670	0.02717	0.00076	0.00048	-0.00062	2P 16.26990	0.14785	-0.04376	3D 10.84130	0.03404
2S 21.11770	0.02515	-0.16119	0.06895	-0.02076	3P 6.08000	0.01546	-0.35133	3D 5.61570	0.29124
2S 10.36320	0.00547	1.03786	-0.43054	0.12367	3P 5.51867	0.01443	0.83328	3D 2.41319	0.44181
3S 9.26330	-0.00415	0.12003	-0.21769	0.06050	3P 3.51564	-0.00836	0.53102	3D 1.37180	0.04381
3S 5.73348	0.00363	0.01485	0.49152	-0.11492	3P 2.60000	0.00324	0.09715		
3S 4.14800	-0.00312	-0.00379	0.62834	-0.29292					
4S 3.65000	0.00113	0.00132	0.11158	0.06885					
4S 1.81690	-0.00020	-0.00011	-0.00048	0.78816					
4S 1.08110	0.00014	0.00007	0.00093	0.32174					
4S 0.76520	-0.00006	-0.00003	-0.00049	-0.05776					

*IRON K(2)L(8)3S(2)3P(6)4S(2)3D(5), 6S
T.E.=-0.12621249E 04 P.E.=-0.25242177E 04 K.E.= 0.12620927E 04 V.T.=-0.20000254E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-261.94294	-32.53457	-4.73360	-0.59262	BASIS/ORB E	-28.00778	-3.28732	BASIS/ORB E	-1.27360
1S 25.87820	0.95053	-0.31320	0.11660	-0.03065	2P 10.09080	0.85997	0.35553	3D 4.07230	0.32760
1S 38.73300	0.02054	0.00749	-0.00253	0.00020	2P 17.02370	0.14287	0.04075	3D 11.46710	0.03221
2S 21.33300	0.04060	-0.17575	0.07442	-0.02198	3P 6.07960	0.04552	0.18423	3D 6.09290	0.26950
2S 10.78860	-0.00492	1.07997	-0.44882	0.12657	3P 5.46805	-0.01753	-0.75039	3D 2.61059	0.44229
3S 9.31910	0.00702	0.08226	-0.28894	0.07473	3P 3.51461	-0.00295	-0.49806	3D 1.54880	0.06009
3S 6.99020	-0.00613	0.02389	0.36426	-0.07796	3P 2.52744	0.00154	-0.05041		
3S 4.67090	0.00291	-0.00580	0.79372	-0.31041					
4S 3.92345	-0.00101	0.00291	0.15793	0.02643					
4S 1.92680	0.00022	-0.00065	0.00272	0.74700					
4S 1.15237	-0.00015	0.00047	-0.00132	0.37407					
4S 0.80019	0.00007	-0.00021	0.00052	-0.05752					

*COBALT K(2)L(8)3S(2)3P(6)4S(2)3D(6), 5D
T.E.=-0.13810083E 04 P.E.=-0.27620042E 04 K.E.= 0.13809960E 04 V.T.=-0.20000089E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-283.66436	-35.49518	-5.11296	-0.61340	BASIS/ORB E	-30.74205	-3.57577	BASIS/ORB E	-1.29180
1S 26.82720	0.95651	-0.31272	0.11723	0.03011	2P 11.11190	0.89030	-0.35891	3D 4.40075	0.33513
1S 41.36000	0.01823	0.00558	-0.00192	0.00005	2P 19.95740	0.07678	-0.02077	3D 12.02330	0.03112
2S 22.00000	0.03547	-0.18940	0.08000	0.02379	3P 7.16122	0.11537	-0.16566	3D 6.55417	0.25164
2S 11.72260	-0.00301	1.01126	-0.42081	-0.11825	3P 5.77893	-0.06020	0.73560	3D 2.75827	0.44145
3S 10.22740	0.00312	0.18714	-0.25881	-0.06305	3P 3.57914	0.01459	0.49337	3D 1.66204	0.07839
3S 6.28224	-0.00515	-0.00104	0.55916	0.04651	3P 2.71670	-0.00476	0.03088		
3S 5.20835	0.00460	0.00752	0.33633	0.28664					
4S 4.55000	-0.00100	-0.00107	0.36196	0.00812					
4S 2.01586	0.00010	0.00015	0.00756	-0.73411					
4S 1.19725	-0.00007	-0.00010	-0.00375	-0.38888					
4S 0.80849	0.00003	0.00004	0.00146	0.05381					

*NICKEL K(2)L(8)3S(2)3P(6)4S(2)3D(7), 4F
T.E.=-0.15064312E 04 P.E.=-0.30128573E 04 K.E.= 0.15064260E 04 V.T.=-0.20000032E 01

S	1S	2S	3S	4S	P	2P	3P	D	3D
BASIS/ORB E	-306.23606	-38.56415	-5.49594	-0.63289	BASIS/ORB E	-33.58307	-3.86688	BASIS/ORB E	-1.33546
1S 27.78100	0.95296	-0.31710	0.11835	-0.03011	2P 11.34410	0.68770	-0.26540	3D 4.60828	0.33844
1S 40.98670	0.02292	0.00713	-0.00189	0.00004	2P 17.66660	0.19327	-0.06932	3D 12.67910	0.03009
2S 22.66670	0.03475	-0.19618	0.08608	-0.02432	3P 12.11790	0.13246	-0.08775	3D 6.90527	0.25799
2S 12.18430	-0.00435	1.03477	-0.44017	0.11970	3P 6.02801	0.04393	0.52475	3D 2.84357	0.44668
3S 10.20010	0.00514	0.18999	-0.29611	0.07565	3P 4.23333	-0.03082	0.33628	3D 1.62359	0.06905
3S 6.77220	-0.00840	-0.04908	0.60462	-0.09589	3P 3.42861	0.01334	0.26956		
3S 5.51882	0.00693	0.04192	0.30920	-0.22231					
4S 4.80234	-0.00152	-0.00764	0.39570	-0.04099					
4S 2.13400	0.00015	0.00075	0.00833	0.69538					
4S 1.26530	-0.00010	-0.00046	-0.00363	0.43011					
4S 0.81220	0.00004	0.00018	0.00127	-0.04819					

TABLE 45- 01

*HELIUM 1S(2), 1S
T.E.=-0.28616700E 01
P.E.=-0.57230037E 01
K.E.= 0.28613336E 01
V.T.=-0.20001175E 01

S	1S
BASIS/ORB E	-0.91795
1S 1.44608	0.83415
1S 2.86222	0.19060

*BE DOUBLE ZETA 1S -0.14572261E+0
T.E.=-0.14568684E 02 P.E.=-0.29047311E 02
K.E.= 0.14478627E 02 V.T.=-0.20062200E 01

S	1S	2S
BASIS/ORB E	-4.76131	-0.31095
1S 3.33700	0.84502	-0.18931
1S 5.50630	0.16802	-0.00834
2S 0.50000	0.00204	-0.12906
2S 0.90000	-0.00348	1.12375

*CARBON 1S(2)2S(2)2P(2), 3P
T.E.=-0.37686677E 02 P.E.=-0.75380854E 02
K.E.= 0.37694176E 02 V.T.=-0.19998010E 01

S	1S	2S	P	2P
BASIS/ORB E	-11.32333	-0.70429	BASIS/ORB E	-0.43265
1S 5.23090	0.84323	-0.27176	2P 1.25572	0.80168
1S 7.96897	0.16565	0.01555	2P 2.72625	0.26048
2S 1.16782	0.00107	0.27368		
2S 1.82031	-0.00050	0.78907		

*OXYGEN 1S(2)2S(2)2P(4), 3P
T.E.=-0.74804179E 02 P.E.=-0.14961806E 03
K.E.= 0.74813881E 02 V.T.=-0.19998702E 01

S	1S	2S	P	2P
BASIS/ORB E	-20.66330	-1.24081	BASIS/ORB E	-0.62866
1S 7.06227	0.80923	-0.30084	2P 1.65372	0.74190
1S 10.10850	0.19773	0.02533	2P 3.68127	0.33549
2S 1.62705	0.00033	0.32340		
2S 2.62158	0.00151	0.75263		

*NEON 1S(2)2S(2)2P(6), 1S
T.E.=-0.12853479E 03 P.E.=-0.25708716E 03
K.E.= 0.12855235E 03 V.T.=-0.19998633E 01

S	1S	2S	P	2P
BASIS/ORB E	-32.76074	-1.92239	BASIS/ORB E	-0.84201
1S 8.91407	0.79265	-0.32325	2P 2.05140	0.71507
1S 12.35450	0.21288	0.03570	2P 4.67477	0.37089
2S 2.18390	-0.00021	0.40818		
2S 3.49207	0.00323	0.67511		

*LITHIUM 1S(2)2S(1) 2S
T.E.=-0.74289742E 01 P.E.=-0.14871868E 02
K.E.= 0.74428934E 01 V.T.=-0.19981299E 01

S	1S	2S
BASIS/ORB E	-2.47994	-0.19259
1S 2.43309	0.88145	-0.21906
1S 4.51769	0.13389	0.01055
2S 0.45000	0.00078	0.52094
2S 0.85000	0.00012	0.56659

*BORON 1S(2)2S(2)2P(1), 2P
T.E.=-0.24527889E 02 P.E.=-0.49060229E 02
K.E.= 0.24532340E 02 V.T.=-0.19998185E 01

S	1S	2S	P	2P
BASIS/ORB E	-7.69448	-0.49411	BASIS/ORB E	-0.30993
1S 4.30481	0.85709	-0.25123	2P 1.00366	0.83837
1S 6.84691	0.15320	0.00989	2P 2.20855	0.21763
2S 0.88143	0.00137	0.18097		
2S 1.40704	-0.00156	0.87265		

*NITROGEN 1S(2)2S(2)2P(3), 4S
T.E.=-0.54397873E 02 P.E.=-0.10880540E 03
K.E.= 0.54407539E 02 V.T.=-0.19998223E 01

S	1S	2S	P	2P
BASIS/ORB E	-15.62433	-0.94239	BASIS/ORB E	-0.56548
1S 6.11863	0.81179	-0.28596	2P 1.50585	0.78256
1S 8.93843	0.19639	0.01913	2P 3.26741	0.28321
2S 1.39327	0.00108	0.30811		
2S 2.22157	-0.00018	0.76300		

*FLUORINE 1S(2)2S(2)2P(5), 2P
T.E.=-0.99401163E 02 P.E.=-0.19881158E 03
K.E.= 0.99410425E 02 V.T.=-0.19999067E 01

S	1S	2S	P	2P
BASIS/ORB E	-26.37451	-1.56700	BASIS/ORB E	-0.72438
1S 7.91788	0.76949	0.31340	2P 1.84539	0.72531
1S 11.01100	0.23727	-0.02923	2P 4.17099	0.35754
2S 1.94665	0.00076	-0.40163		
2S 3.09603	0.00109	-0.68011		

TABLE 45- 02

*SODIUM K(2)L(8)3S(1), 2S
T.E.=-0.16184971E 03 P.E.=-0.32373177E 03
K.E.= 0.16188204E 03 V.T.=-0.19998001E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-40.46668	-2.79022	-0.18114	BASIS/ORB E	-1.51124
1S 9.71542	0.73919	-0.34000	0.05260	2P 2.57132	0.73878
1S 13.14740	0.26678	0.03768	-0.00692	2P 5.49636	0.33147
2S 2.60387	0.00088	0.39901	-0.07599		
2S 3.90983	0.00143	0.68259	-0.10472		
3S 0.75485	0.00016	-0.00049	0.79808		
3S 1.25944	-0.00030	0.00052	0.25733		

*MAGNESIUM K(2)L(8)3S(2), 1S
T.E.=-0.19960697E 03 P.E.=-0.39922038E 03
K.E.= 0.19961341E 03 V.T.=-0.19999676E 01

S	1S	2S	3S	P	2P
BASIS/ORB E	-49.02498	-3.76463	-0.25227	BASIS/ORB E	-2.27874
1S 10.28770	0.60598	-0.34742	0.07001	2P 3.04208	0.74494
1S 13.58680	0.40103	0.02775	-0.00758	2P 6.20776	0.31623
2S 2.89470	0.00283	0.33845	-0.10297		
2S 4.30723	-0.00183	0.75162	-0.14383		
3S 0.90759	0.00040	0.00171	0.64423		
3S 1.50587	-0.00084	-0.00572	0.43983		

TABLE 45- 03

*ALUMINUM K(2)L(8)3S(2)3P(1), 2P
T.E.=-0.24187285E 03 P.E.=-0.48372228E 03 K.E.= 0.24184944E 03 V.T.=-0.20000967E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-58.49929	-4.91012	-0.39269	BASIS/ORB E	-3.21741	-0.20950
1S 10.33190	0.39604	-0.32916	0.07899	2P 3.62136	0.77360	-0.14620
1S 13.98030	0.61459	-0.01558	0.00174	2P 7.12612	0.26973	-0.04726
2S 3.53424	0.00939	0.48867	-0.18830	3P 0.89522	-0.00662	0.76411
2S 5.02512	-0.01221	0.61647	-0.12383	3P 1.60850	0.02313	0.30883
3S 1.15946	0.00103	0.00149	0.64318			
3S 1.86836	-0.00223	-0.00347	0.45352			

*SILICON K(2)L(8)3S(2)3P(2), 3P
T.E.=-0.28885032E 03 P.E.=-0.57765903E 03 K.E.= 0.28880870E 03 V.T.=-0.20001440E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-68.81016	-6.15512	-0.53801	BASIS/ORB E	-4.25419	-0.29587
1S 9.60935	0.22699	-0.31339	0.08076	2P 4.08524	0.77780	-0.17507
1S 14.53720	0.79217	-0.07524	0.01924	2P 7.81297	0.26218	-0.05446
2S 4.13382	0.01514	0.66752	-0.27440	3P 1.09340	-0.00473	0.69577
2S 6.05401	-0.02761	0.47864	-0.08971	3P 1.86255	0.01824	0.38129
3S 1.39955	0.00143	0.00246	0.67830			
3S 2.23938	-0.00327	-0.00440	0.42977			

*PHOSPHORUS K(2)L(8)3S(2)3P(3), 4S
T.E.=-0.34068931E 03 P.E.=-0.68121625E 03 K.E.= 0.34052694E 03 V.T.=-0.20004767E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-79.98579	-7.50438	-0.69525	BASIS/ORB E	-5.41341	-0.39192
1S 13.54050	0.74977	-0.49236	0.11559	2P 4.55551	0.78393	-0.19689
1S 17.77350	0.25361	0.12796	-0.02116	2P 8.51709	0.25344	-0.05826
2S 4.50000	0.00143	0.98322	-0.41650	3P 1.23975	-0.00352	0.60660
2S 8.50000	0.00249	0.19647	-0.00731	3P 2.08127	0.01428	0.47850
3S 1.63895	0.00012	0.04050	0.77817			
3S 2.92052	-0.00041	-0.11416	0.39127			

TABLE 45- 04

*SULFUR K(2)L(8)3S(2)3P(3), 3P
T.E.=-0.39749051E 03 P.E.=-0.79494546E 03 K.E.= 0.39745495E 03 V.T.=-0.20000894E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-92.00999	-9.00629	-0.87912	BASIS/ORB E	-6.68963	-0.43708
1S 13.71740	0.53980	-0.45693	0.12585	2P 4.90727	0.75824	-0.20738
1S 17.69130	0.46677	0.08381	-0.01924	2P 8.90262	0.28161	-0.06876
2S 4.50000	0.00369	0.68067	-0.41437	3P 2.33358	0.00287	0.55335
2S 7.00000	-0.00317	0.49502	-0.07015	3P 1.32171	0.00204	0.55074
3S 1.81513	0.00036	0.02803	0.72311			
3S 3.15955	-0.00129	-0.09538	0.48648			

*CHLORINE K(2)L(8)3S(2)3P(3), 2P
T.E.=-0.45947380E 03 P.E.=-0.91887231E 03 K.E.= 0.45939852E 03 V.T.=-0.20001637E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-104.87793	-10.60076	-1.06552	BASIS/ORB E	-8.06460	-0.49991
1S 12.05870	0.22143	-0.34337	0.10635	2P 5.35736	0.76189	-0.23282
1S 17.65010	0.79375	-0.06389	0.01811	2P 9.56702	0.27656	-0.06743
2S 4.92606	0.01808	0.43577	-0.34780	3P 1.60921	0.00498	0.67838
2S 6.98333	-0.02554	0.72240	-0.14259	3P 2.85870	-0.00117	0.43171
3S 2.00905	0.00143	0.00642	0.69985			
3S 3.34163	-0.00476	-0.01993	0.48475			

*ARGON K(2)L(8)3S(2)3P(3), 1S
T.E.=-0.52677505E 03 P.E.=-0.10534888E 04 K.E.= 0.52671377E 03 V.T.=-0.20001163E 01

S	1S	2S	3S	P	2P	3P
BASIS/ORB E	-118.60161	-12.31329	-1.27010	BASIS/ORB E	-9.56285	-0.58375
1S 14.43770	0.35071	-0.44690	0.13582	2P 5.02421	0.62615	-0.23934
1S 19.13060	0.65854	0.04291	-0.01047	2P 9.07855	0.45922	-0.11117
2S 5.00000	0.00694	0.63699	-0.45658	3P 1.81174	0.01945	0.72656
2S 8.00000	-0.00912	0.58355	-0.10603	3P 3.42549	-0.06999	0.43099
3S 2.18470	0.00065	0.03133	0.68854			
3S 3.74910	-0.00263	-0.12009	0.56846			